

Gender-Conflict Resolution in Mushunguli

Senior Research Thesis

In partial fulfillment for the requirements of graduation with *Research Distinction* in
Linguistics in the undergraduate colleges of the Ohio State University

by

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June 2012

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Abstract

While many languages require some form of subject-verb agreement, perhaps few offer such delightfully complex rules of agreement as Mushunguli, a Bantu language spoken by approximately 23,000 speakers in Somalia. This project presents data from Mushunguli which bear directly on the issue of noun class agreement, and gender-conflict resolution. Previous analyses of Bantu languages make large claims as to the system by which subjects agree with head sentential verbs (Corbett 1991, 1993; Wechsler 2001 etc.), but these analyses only consider semantic consideration, i.e. considerations of meaning, as the source of agreement for most all Bantu languages. Contrary to these analyses, this language shows that indeed formal, syntactic considerations govern these conflicted genders and their respective prefixes of agreement. Mushunguli, as a Bantu language, organizes nouns into one of 12 noun classes which govern their respective agreement patterns, e.g. a noun such as [m₁-gosi] 'man', when combining with a verb, requires a class 1 prefix-subject marker (henceforth. Concord Prefix (CP)) [ka-] on the verb, as in the sentence [m₁-gosi ka₁-gwa] 'man(1) (1)-falls'. The plural form of the root is then realized by selecting another class's morphology consistent with gender assignment, i.e. class 1 singular, when plural is *always* realized with class 2 markings, compare: [m₁-gosi ka₁-gwa] 'man(1) (1)-fell' with [wa₂-gosi wa₂-gwa] 'men(2) (2)-fell'. For clarity's sake, the noun class number has been placed as a subscript below the nominal CP, and the concord prefix will be separated by a '-'. The above examples serve as a template for natural class agreement between subjects and verbs.

Gender conflict occurs, when two differing classes simultaneously require a concord prefix on the verb. Such a situation occurs frequently when subject NPs are a part of a conjunction, that is, the noun phrases are conjoined by 'and'. In Mushunguli, this may look like [m₁-gosi yu₁-no na chi₇-bonkho ch₇-edi wa₂-gwa] 'This(1) man(1) and the-good(7) hippo(7) 2-fell'. In the previous sentence a Class 1 noun is being conjoined with a Class 7 noun, of which the results of which via natural class agreement cannot be determined. Fortunately, enough empirical data have been collected to reveal that such conflicts are resolved by a totally ordered set of gender. That is, certain noun classes in effect 'win out' (Wechsler 2000) over other prefixes. This analysis maintains that two lexical rules must be created in order to account for the proper resolution of gender agreement. The first, relies on the Head-Subject Inheritance Principle, a central tenant to the syntactic theory of HPSG (Pollard & Sag 1994). This principle, makes visible certain agreement specification of the subject noun for the verb, so that the verb may select the corresponding agreement pattern. This first rule accounts for those examples which demonstrate natural class agreement, i.e. when there is no conflict, but for the gender conflicted structures a new rule must be posited given certain theoretical consequences.

The second rule, focuses purely on coordinated structures of the conjunctive variety. Under a theory of HPSG conjoined structures do not have a single head specifications, and as a result, the above-described head-reliant rule cannot apply to the verb. I argue that the agreement specifications of each noun phrases' head are visible to the conjunction, which in turn computes the join of the pair of conjunct daughter's head AGR specification, thus determining which of the two classes will apply to the verb. The function, inspired by lattices and the notion of logical precedence defines each gender with a ranking of logical precedence, which reflects which class will 'win out'.

Critically, these rules work well within the realm of syntax and do not rely on semantic considerations. This is interesting as Corbett (1991) concludes that all Bantu languages resolve conflicts either through meaning or through partial agreement, i.e the noun which is closest in proximity to the verb wins. Yet as can be seen in Mushunguli, this simply is not the case.

Acknowledgments

I would like to thank both of my superior advisors, Dr. David Odden, and Dr. Robert Levine, for their constant support and ever-present inspiration. Much thanks is also owed to my classmates and colleagues from the Winter 2011 Ling 550 course, most notable: Katherine Hout, Betsy Pillion, Jefferson Barlew, and Brandon Yackey for their ever-vigilant eyes and helpful dispositions. Special thanks are due to David Garman and Geoffrey Shoupp, two dear colleagues and friends, whose late night discussions harbored this analysis. To my family, for their constant support and insight, I also owe much thanks. Last but certainly not least, I would like to thank the entire Linguistics Department of The Ohio State University, as it was the collective atmosphere and encouragement which both fosters and promotes research, that ultimately enabled this project. Most importantly I would like to thank my language consultant, Mohamed Ramadhan, for his willingness to discuss 'mirrors and hippos falling from trees' allowing for this project.

This research was made possible through the generous grants provided by the Undergraduate Research Office, Linguistics Departmental loans, and an initial investment by Dr. David Odden: To you all I am incredibly grateful.

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1 Introduction

This research aims to provide a phenomenological account of occurrences of gender conflict in the Mushunguli/Chi-Zigua language. As no scholarly attention has been paid to this language, its eccentricities and theoretical implications to the realm of linguistics were lacking and yet understood. The speakers of this language constitute an ethnic minority in a country beset with political and social turmoil, which qualifies their language as very endangered. This research originates from the intellectual results of a Linguistics 550 course, which taught concepts of 'Field Methods in Linguistics.' Pulling largely from the empirical data made available from this course and from individual session with a native speaker, enough empirical data have been collected to exhaustively discuss the proposed topic.

Mushunguli is a Bantu language spoken in the lower Juba River Valley of Somalia by around 23,000 people. As is the case with many Bantu languages, their historical contact with other languages leads to quite interesting amalgams of language families, which subsequently lead to each language adopting its own flavor of linguistic traits. While known for their diversity as a language family, some traits occur consistently throughout all Bantu languages, and one such trait is the utilization of *Noun Classes*.

For those unfamiliar with the concept of a noun class, an analogous system of classification is seen in many Indo-European languages, which are more commonly dealt with. *Gender*, that is the subdivision of grammatical agreement into units of morphological 'sameness', works very similarly to a noun class system, but is less expansive, in that at most up to 3 grammatical genders are used. While one may speak of 'masculine, feminine, and neuter' genders, this system only allows an at most ternary distinction between distinct patterns of agreement, and provides no method for discussing systems which exceed 3 grammatical Genders. Given this, one speaks of noun classes in Gender's stead. Historically, it is argued that Proto-Bantu had 24 distinct patterns of agreement, thus requiring at least 8 times as many 'genders' for potentially occupied classes. Given the short-comings and odd association of the three terms 'masculine, feminine, and neuter' linguists of the past and modernity offer the idea of a 'class', which is simply represented by a number, 1-X, where X is the maximum number of semantically/syntactically inspired distinctions used in the language. While the noun class system historically served a semantic purpose, most distinctions of meaning have been lost in their modern application in Mushunguli, and have left only the syntactic remnant of agreement, which serves as an indicator to class assignment.

This system of agreement, as one can imagine, uses a rather large set of morphological distinctions to signal to the language user that the noun in question has X class specifications. These morphological class markers are known as Concord Prefixes (henceforth CPs). Given that each of these CPs indicates agreement between certain sentential elements, it would be interesting to observe the way in which conflicting agreement specifications are resolved. This research utilizes coordination of subject NPs to both probe and capture the system by which this occurs. Given the substantive nature of this topic, it will be useful to thoroughly examine the agreement specifications of NP-internal elements, which will be discussed in Section 2. Section 3 progresses to the phrasal level, in which the exter-

nal requirements of head nouns will be described and captured on elements outside of the subject-NP constituent. Having developed a better understanding of these two critically important agreement systems, Section 4 will look into the rather complex ontological requirements for resolving coordinated structures which exhibit gender conflict. An analysis of this system will be proposed in Section 5, which makes use of ordered sets and the join \vee operator to determine the resolution of the CP.

2 NP-Internal Agreement

While many languages require some form of agreement between a noun and its modifying elements, perhaps few languages offer such a rich system of classification and agreement as Mushunguli. In Mushunguli, it is the noun class system (Sec 1) which provides for this rich system of agreement, as nouns require class-specific CPs on most all elements which modify the noun. In *Figure 1* below, a collection of 26 nouns (14 singular and 10 plural) are presented, which demonstrate the CPs within a NP on a demonstrative and adjectival modifying element.

Table 1: NP-Internal Noun Class Agreement

Noun Class	Noun	Noun Phrase (-no=this -kulu=short)	Gloss
1	m ₁ -vere	mvere yu -no m -kulu	this short woman
1	m ₁ -gosi	mgosi yu -no m -kulu	this short man
2	wa ₂ -vere	wavere wa -no wa -kulu	these short women
2	wa ₂ -gosi	wagosi wa -no wa -kulu	these short men
3	m ₃ -tedha	mtedha u -no m -kulu	this short peanut
3	m ₃ -twi	mtwi u -no m -kulu	this short head
3 _a	m _{3a} -nyau	mnyau yu -no m -kulu	this short cat
4	mi ₄ -tedha	mittedha i -no mi -kulu	these short peanuts
4	mi ₄ -twi	mitwi i -no mi -kulu	these short heads
4	mi ₄ -nyau	mi ₄ -nyau i -no mi -tali	these short cats
5	ξ ₅ -vuha	vuha di -no ξ-kulu	this short bone
5	ξ ₅ -gutwi	gutwi di -no ξ-kulu	this short ear
6	ma ₆ -vuha	mavuha ya -no ma -kulu	these short bones
6	ma ₆ -gutwi	magutwi ya -no ma -kulu	these short ears
7	chi ₇ -ga	chi-ga chi -no chi -kulu	this short leg
7	chi ₇ -bonkho	chibonkho chi -no chi -kulu	this short hippo
8	v ₈ -iga	viga vi -no vi -kulu	these short legs
8	vi ₇ -bonkho	vibonkho vi -no vi -kulu	these short hippos
9	n ₉ -bwa	mbwa i -no n -kulu	this short dog
9	n ₉ -guluwe	nguluwe i -no n -kulu	this short pig
10	n ₁₀ -bwa	mbwa zi -no n -kulu	these short dogs
10	n ₁₀ -guluwe	nguluwe zi -no n -kulu	these short pigs
12	ka ₁₂ -huji	kahuji ka -no ka -kulu	this short hawk

2(12pl)	wa ₂ -huji	wahuji wa -no wa -kulu	these short hawks
14	u ₁₄ -ta	uta u -no u -kulu	this short bow
14pl	mi ₄ -uta	nyuta i -no mi -kulu	these short bows

In the above *Figure 1* a difference between CPs on adjectives and demonstratives is noted in only one class: Class 1, where the demonstrative /-no/ 'this' selects the prefix /yu/ compared with the adjective /-kulu/, which selects the CP /m/. All other classes appear to select the same concord prefixes for both adjectives and demonstratives. The situation is however not this simple, as the data below indicate. Looking now to *Figure 2*, one sees a similar set up to *Figure 1*, which differs only in the modifiers used. Here, numbers 1 and 3 and the adjective /-tali/ 'long' will be the focus of investigation in search of a complete list of NP-internal CPs.

Table 2: *NP-internal Agreement*

<i>Noun Class</i>	<i>Noun</i>	<i>Noun Phrase</i> (-menga=1, -tatu=3, -tali=long, -angu=my)	<i>Gloss</i>
1	m ₁ -gosi	mgosi y -angu yu -menga m -tali	my 1 long man
2	wa ₂ -gosi	wagosi w -angu wa -tatu wa -tali	my 3 long men
3	m ₃ -tedha	mtedha w -angu u -menga m -tali	my 1 long peanut
3 _a	m _{3a} -nyau	mnyau y -angu yu -menga m -tali	my 1 long cat
4	mi ₄ -tedha	mittedha y -angu mi -tatu mi -tali	my 3 long peanuts
5	ξ ₅ -vuha	vuha dy -angu di -menga -tali	my 1 long bone
6	ma ₆ -vuha	mavuha y -angu ma -tatu ya -tali	my 3 long bones
7	chi ₇ -bonkho	chibonkho ch -angu chi -menga {chi-tali	my 1 long hippo
8	vi ₈ -bonkho	vibonkho v -angu vi -tatu vi -tali	my 3 long hippos
9	n ₉ -guluwe	nguluwe y ¹ -angu i -menga n -tali	my one long pig
10	n ₁₀ -guluwe	nguluwe z -angu m -tatu n -tali	my three long pigs
12	ka ₁₂ -huji	kahuji ka -ngu ka -menga ka -tali	my one long hawk
2(12pl)	wa ₂ -huji	wahuji wa -ngu wa -tatu wa -tali	my three long hawks
14	u ₁₄ -ta	uta w -angu u -menga m -tali	my one long bow
14pl (4V10)	mi ₄ -uto ∨ n ₁₀ -uta	nyuta z -angu m -tatu n -tali	my 3 long bows

Figure 1 and *Figure 2* above contain at least one token of all potential CPs that can be found on NP-internal modifying elements. It is the case that each modifier selects one of 4 CPs to agree with the noun, but each modifier selects only one, i.e. although at most 4 distinct CPs can be selected, adjectives like /-tali/ 'long' do not select any arbitrary CP of the available set; CPs are fixed. Potential CPs for NP-internal agreement are summarized in the following figure which provides a distributional analysis of each prefix by class.

¹Worthy of mention, is the phonological process of glide formation, which changes [+syl] segments into [-syl] before a vowel and accounts for the differences in vowel-initial vs. glide-initial CPs, e.g. in the class 9 this accounts for the initial /i/-vowel in *i-menga* that becomes /y/ in *y-angu*.

Table 3: Summarized Concord Prefixes

<i>Class</i>	<i>CP on Adj</i>	<i>CP on Demonstratives</i>	<i>CP on Numbers</i>	<i>CP on Possessives</i>	<i>Collective set</i>
1	m -kulu, m -tali	yu -no	yu -menga	i/y -angu	{-, yu-, yu-, i-/y-}
2	wa -kulu, wa -tali	wa -no	wa -tatu	wa -angu	{wa-, wa-, wa-, wa-}
3	m -kulu, m -tali	u -no	u -menga	w/u -angu	{m-, u-, u-, w-/u-}
4	mi -kulu, mi -tali	i -no	mi -tatu	i/y -angu	{mi-, i-, mi-, i-/y-}
5	ξ -kulu, ξ^2 -tali	di -no	di -menga	dy -angu	{ ξ -, di-, di-, dy-/di}
6	ma -kulu, ya -tali	ya -no	ma -tatu	ya -angu	{ma-, ya-, ma-, y-/i-}
7	chi -kulu, chi -tali	chi -no	chi -menga	ch -angu	{chi-, chi-, chi-, ch}
8	vi -kulu, vi -tali	vi -no	vi -tatu	v -angu	{vi-, vi-, vi-, v-}
9	n -kulu, n -tali	i -no	i -menga	y/i -angu	{n-, i-, i-, y-/i-}
10	n -kulu, n -tali	zi -no	m -tatu	z -angu	{n-, zi-, m-, z-}
12	ka -kulu, ka -tali	ka -no ka -menga	k -angu	{ka-, ka-, ka- k-}	
14	u -kulu, m -tali	u -no	u -menga	w/u -angu	{m-, u-, u-, w-/u-}
14pl ₄	mi -kulu, mi -tali	i -no	mi -tatu	i/y -angu	{mi-, i-, mi-, i-/y-}
14pl ₁₀	n -kulu, n -tali	zi -no	m -tatu	z -angu	{n-, zi-, m-, z-}

The regularity in selecting prefixes can be understood only at the class level, i.e. one can easily predict which class a noun belongs to, but which agreement morphemes within the class's set is most optimal for an adjective is unclear. This uncertainty is subsumed to lexicalization of morphological CPs, i.e. the specification for a CP is simply lexically-dependent and unpredictable. Yet some classes appear to reduce to a singleton set of possibilities, take for example Class 2. In Class 2 both nominal-markings and agreement CPs pull from the non-contiguous singleton sets {wa-} and {wa-}. This only serves to simplify the processing work load in selecting prefixes of agreement. In sharp contrast to Classes 2, 7, 8, and 12, in which only one CP can be selected, Classes 1, 3, 4, 5, 6, etc all incur multiple choices for potential CPs. Based on syntactic category, one can further delimit the number of choices for CPs, as the figure above indicates. When divided into: Demonstratives, Cardinal Numbers, Possessives and Adjectives, the first three categories can be reduced to a single CP, whereas the latter, adjectives select the same prefix observed on the head noun.

Observation of the similarities and differences between available CPs specific to class, indicates that some classes have identical agreement morphemes. Class 14, as seen in figures 1 and 2, adopts a /u-/ nominal prefix, yet its patterns of internal agreement are identical with the set of class 3. Conversely, class 12pl, adopts not just the agreement CPs but also nominal prefixes associated with class 2. With such overlap one must make a distinction between simple singular-plural gender differences (Class 12pl \rightarrow class 2), and constructions which exhibit hybrid/hijacked qualities (Class 14's nominal prefix coupled with it's agreement). The latter situation has come to be called hijacked agreement, and is the result of borrowed and collapsed agreement sets in the language.

²Here ξ is the symbol adopted to indicate a null phonological realization, e.g. nothing

2.1 Hijacked Internal Agreement

Looking closely at class 14, the disjunction in its plural presents the next interesting realization of agreement. Looking now at the nominal CP of class 14 plural *mi*, where, through phonological processes /mi/ is realized as *ny*, one finds that this is similar to the nominal prefix of class 4. Agreement patterns on modifying elements reveal that plural class 14 nouns agree as either class 10 or class 4 nouns, made evident by comparison of class 14 *nyuta* **zi-no** **zi-kulu** 'these long bows' with class 10 *nguluwe* **zi-no** **zi-kulu** 'these long/big pigs', or *miuta* **i-no** **i-kulu** 'these old tongues' with class 4 *mtedha* **i-no** **i-kulu** 'these old peanuts'. To sum, the gender properties are such that singular NP-Internal agreement agrees as class 3, yet when plural all roots may adopt class 4 or class 10. Such instances fall under the phenomena of *hijacked* agreement, of which other avatars can be found.

A salient instance of *hijacked* agreement patterns is found again in class 14. Class 14 nouns are identifiable by the appearance of the unique *u* noun prefix, but consistently agree as class 3 nouns with other sentential elements, e.g. compare class 14 prefixes of agreement in *uta* **u-no** **u-kulu** 'this long bow' with class 3 *mtedha* **u-no** **m-kulu** 'this long/big peanut': Agreement morphemes are identical, short of the adjective prefix. From this, one is apt to conclude that class 14 is simply class 3, but this cannot be the case as the nominal prefix of class 14 nouns, *u-*, is not identical with that of class 3 *m-*prefix. Using agreement again as the determiner of class assignment, one concludes that class 14 is a class of its own, whose modifying elements agree in class 3 when singular. The chain of reasoning, which resulted in class 12 and 14 noun assignments is summed below in *Figure 3*. The effects of this phenomenon can be found in the plural class of class 12, whose agreement morphemes are identical with those of class 2. Here, the CP *wa-* appears both on the noun and the NP-internal modifying elements of both class 2 and class 12pl. Given that these two plural classes are the same, and using agreement as a diagnostic for class assignment one must conclude that class 12, when plural, agrees as class 2.

Table 4: Hijacked Noun Class Similarities

Noun	Prefix	Same	Agreement CP	Same	Class Assignment	Gloss	Hijacked?
wabuga	wa-	YES	wa-	YES	2pl 12sg	rabbits	No
wavere	wa-		wa-		2pl 1sg	women	
			Compared with				
ulimi	u-	NO	{u-, u-, u-, w-/u-}	YES	14 sg 4√10	tongue	Yes
mtedha	m-		{u-, u-, u-, w-/u-}		3 sg 4 pl	peanut	

The critical distinction, between hijacked class agreement, and simply being another class, is just that, classes which are hijacked borrow certain aspects while maintaining some salient feature which necessitates them as a separate class. Such situations are seen in bottom element of the above figure, in which the noun-prefixes are distinct, while the agreement requirements are identical. Looking now to comparisons of class 12 pl against class 2 data, one sees that indeed every aspect of class 2 morphology is adopted by the root /-buga/'rabbit', which means that these forms are not distinct, and furthermore that they are one in the same. By simply pairing singular and plural realizations of the roots, such unpredictable

selections for plural outcomes can be recorded and made predictable. Such paired constructions have a well-attested use in linguistic analysis and are known as *genders*.

2.2 Gender Agreement

From the above one can confirm, that indeed noun classes mark singular-plural distinctions, in that it also requires class-specific elements of agreement on modifiers to the noun. It appears that constructions such as the above require a rule, which guarantees the *inheritance* of an agreement specification from the head noun, whose class is inherited, by the agreeing/modifying element. Such rules can be easily formulated using the notion of inheritance frequently appealed to in *Head-Driven Phrase Structure Grammar* (Sag & Pollard 1984). Under this framework head elements, e.g. the noun, overtly specify certain features which often require concord from other *argument*-sisters. Given this, it is possible to robustly state *The Rule of NP-Internal AGR Inheritance*.

Figure 4: Rule of NP-Internal AGR Inheritance
Sister Elements to a head noun must have same class AGR-specifications.

Taking note of the fact that classes 4 and 9 have identical CPs, yet when singular and plural respectively adopt phonologically distinct forms, somewhat complicates AGR specifications. Such overlapping complications motivate the use of *Genders*, which usefully categorize a singular-plural pair of classes into one single set. Below, a figure has been provided which introduces the reader to this new categorical notation. Using plurality and agreement as a diagnostic for class assignment will prove paramount when dealing with other asymmetrical occurrences in the data, and further motivates the use of gender.

Table 5: Class to Gender

Class	Word	Gloss		Gender
1	m ₁ – <i>gosi</i>	man	→	A
2	wa ₂ – <i>gosi</i>	men		
3i	m ₃ – <i>tedha</i>	peanut	→	B
4	mi ₄ – <i>tedha</i>	peanuts		
3a ³	m ₃ – <i>nyau</i>	cat	→	B _a
4	mi ₄ – <i>tedha</i>	cats		
5	ξ ₅ – <i>vuha</i>	bone	→	C
6	ma ₆ – <i>vuha</i>	bones		
7	chi ₇ – <i>bonkho</i>	hippo	→	D

8	$vi_8 - bonkho$	hippos		
9	$n_9 - guluwe$	pig	\rightarrow	E
10	$n_{10} - guluwe$	pig		
12	$ka_{12} - buga$	rabbit	\rightarrow	F
2	$wa_2 - buga$	rabbits		
14	u-limi	tongue	\rightarrow	G
$4 \vee 10$	$mi_4 - limi \vee n_{10} - imi$	tongues		

Now when referring to the process of classes selecting their plural forms, one can simply consult the *Class to Gender* figure and easily see which singular classes route to their respective plural class forms. In the following sections this will become quite useful as it permits discussion of not just noun classes, but their respective singular-plural outcomes, which is the guiding hand in gender conflict in this language.

3 NP-External Agreement

The occurrence of CPs is, however not solely restricted to modifying elements within the noun phrases, and is also required on verbs by the subject. *Figure 5*, below, contains a verbal paradigm of concord prefixes in 3 tenses of the verb *ku-gwa* 'to fall', where *ku-* is the infinitival prefix and *-gwa* is the verbal stem. Verbs are also marked for tense: past tense receives no tense-marking vowel between the CP and verbal stem, present tense is marked with an /-a-/ affix which occurs between the CP and the verbal stem, and future is built with a pre-CP prefix /na-/ and suffix vowel change.

<i>Noun</i>	<i>Past</i>	<i>Present</i>	<i>Future</i>
1)mgosi	ka-gwa	a-gwa	na-a-gwe
(the)-man	(1-sg-past)-fall	(1-sg-pres)-fall	(1-sg-fut)-fall
1)mvere	ka-gwa	a-gwa	na-a-gwe
(the)woman	(1-sg-past)-fall	(1-sg-pres)-fall	(1-sg-fut)-fall
1)mndere	ka-gwa	a-gwa	na-a-gwe
(the)maiden	(1-sg-past)-fall	(1-sg-pres)-fall	(1-sg-fut)-fall
2)wagosi	wa-gwa	wa-gwa	na-wa-gwe
(the)-men	(2-pl-past)-fall	(2-pl-pres)-fall	(2-pl-fut)-fall
2)wavere	wa-gwa	wa-gwa	na-wa-gwe
(the)-women	(2-pl-past)-fall	(2-pl-pres)-fall	(2-pl-fut)-fall
2)wandere	wa-gwa	wa-gwa	na-wa-gwe
(the)-maidens	(2-pl-past)-fall	(2-pl-pres)-fall	(2-pl-fut)-fall

³The class-specific distinction between classes 3i and 3a reflects distinctions of animacy only observed in this class, and thoroughly discussed in Section 3, *NP-External Agreement*

3i)mtedha (the)-peanut	u-gwa (3i-sg-past)-fall	u-a-gwa (3i-sg-pres)-fall	na-u-gwe (fut-3i-sg)-fall
3i)mgongo (the)-back	u-gwa (3i-sg-past)-fall	u-a-gwa (3i-sg-pres)-fall	na-u-gwe (fut-3i-sg)-fall
3i)mtwi (the)-head	u-gwa (3i-sg-past)-fall	u-a-gwa (3i-sg-pres)-fall	na-u-gwe (fut-3i-sg)-fall
4i)mitedha (the)-peanuts	i-gwa (4i-pl-past)-fall	ya-gwa (4i-pl-pres)-fall	ne-(dhe)-i-gwe (4i-pl-fut)-fall
4i)migongo (the)-backs	i-gwa (4i-pl-past)-fall	ya-gwa (4i-pl-pres)-fall	ne-(dhe)-i-gwe (4i-pl-fut)-fall
4i)mitwi (the)-heads	i-gwa (4i-pl-past)-fall	ya-gwa (4i-pl-pres)-fall	ne-(dhe)-i-gwe (4i-pl-fut)-fall
3a)mnyau (the)-cat	ka-gwa (3a-sg-past)-fall	a-gwa (3a-sg-pres)-fall	na-a-gwe (3a-sg-fut)-fall
3a)mtabwali (the)-vulture	ka-gwa (3a-sg-past)-fall	a-gwa (3a-sg-pres)-fall	na-a-gwe (3a-sg-fut)-fall
4a)minyau (the)-cats	i-gwa (4-pl-past)-fall	ya-gwa (4-pl-pres)-fall	ne-(dhe)-i-gwe (4-pl-fut)-fall
4a)mitabwali (the)-vultures	i-gwa (4-pl-past)-fall	ya-gwa (4-pl-pres)-fall	ne-(dhe)-i-gwe (4-pl-fut)-fall
5)bambo (the)-stork	di-gwa (5-sg-past)-fall	da-gwa (5-sg-pres)-fall	na-di-gwe (5-sg-fut)-fall
5)dole (the)-finger	di-gwa (5-sg-past)-fall	da-gwa (5-sg-pres)-fall	na-di-gwe (5-sg-fut)-fall
5)wata (the)-duck	di-gwa (5-sg-past)-fall	da-gwa (5-sg-pres)-fall	na-di-gwe (5-sg-fut)-fall
6)mabambo (the)-storks	ya-gwa (6-pl-past)-fall	ya-gwa (6-pl-pres)-fall	na-ya-gwe (6-pl-fut)-fall
6)madole (the)-fingers	ya-gwa (6-pl-past)-fall	ya-gwa (6-pl-pres)-fall	na-ya-gwe (6-pl-fut)-fall
6)mawata (the)-ducks	ya-gwa (6-pl-past)-fall	ya-gwa (6-pl-pres)-fall	na-ya-gwe (6-pl-fut)-fall
7)chibonkho (the)-hippo	chi-gwa (7-sg-past)-fall	cha-gwa (7-sg-pres)-fall	na-chi-gwe (7-sg-fut)-fall
7)chisuse (the)-scorpion	chi-gwa (7-sg-past)-fall	cha-gwa (7-sg-pres)-fall	na-chi-gwe (7-sg-fut)-fall
7)chirole (the)-mirror	chi-gwa (7-sg-past)-fall	cha-gwa (7-sg-pres)-fall	na-chi-gwe (7-sg-fut)-fall
8)vibonkho (the)-hippos	vi-gwa (8-pl-past)-fall	va-gwa (8-pl-pres)-fall	na-vi-gwe (8-pl-fut)-fall
8)visusue (the)-scorpions	vi-gwa (8-pl-past)-fall	va-gwa (8-pl-pres)-fall	na-vi-gwe (8-pl-fut)-fall
8)virole (the)-mirrors	vi-gwa (8-pl-past)-fall	va-gwa (8-pl-pres)-fall	na-vi-gwe (8-pl-fut)-fall
9)ngluwe (the)-pig	i-gwa (9-sg-past)-fall	i-a-gwa (9-sg-pres)-fall	ne-i-gwe (9-sg-fut)-fall

9)ngwena (the)-crocodile	i-gwa (9-sg-past)-fall	i-a-gwa (9-sg-pres)-fall	ne-i-gwe (9-sg-fut)-fall
9)ngola (the)-knife	i-gwa (9-sg-past)-fall	i-a-gwa (9-sg-pres)-fall	ne-i-gwe (9-sg-fut)-fall
10)nguluwe mengi (the)-pig many	zi-gwa (10-pl-past)-fall	za-gwa (10-pl-pres)-fall	na-zi-gwe (10-pl-fut)-fall
10)ngwena mengi (the)-crocodiles many	zi-gwa (10-pl-past)-fall	za-gwa (10-pl-pres)-fall	na-zi-gwe (10-pl-fut)-fall
10)ngola mengi (the)-knives many	zi-gwa (10-pl-past)-fall	za-gwa (10-pl-pres)-fall	na-zi-gwe (10-pl-fut)-fall
12)kahuji (the)-hawk	ka-gwa (12-sg-past)-fall	ka-gwa (12-sg-pres)-fall	ka-gwa (12-sg-fut)-fall
12)kabuga (the)-rabbit	ka-gwa (12-sg-past)-fall	ka-gwa (12-sg-pres)-fall	ka-gwa (12-sg-fut)-fall
12)kaloga (the)-duiker	ka-gwa (12-sg-past)-fall	ka-gwa (12-sg-pres)-fall	ka-gwa (12-sg-fut)-fall
2-12pl)wahuji (the)-hawks	wa-gwa (12-pl-past)-fall	wa-gwa (12-pl-pres)-fall	na-wa-gwa (12-pl-fut)-fall
2-12pl)wabuga (the)-rabbits	wa-gwa (12-pl-past)-fall	wa-gwa (12-pl-pres)-fall	na-wa-gwa (12-pl-fut)-fall
2-12pl)waloga (the)-duikers	wa-gwa (12-pl-past)-fall	wa-gwa (12-pl-pres)-fall	na-wa-gwa (12-pl-fut)-fall
14)ulimi (the)-tongue	u-gwa (3-sg-past)-fall	u-a-gwa (3-sg-pres)-fall	na-u-gwe (3-sg-fut)-fall
14)uta (the)-bow	u-gwa (3-sg-past)-fall	u-a-gwa (3-sg-pres)-fall	na-u-gwe (3-sg-fut)-fall
14)utumbo (the)-intestines	u-gwa (3-sg-past)-fall	u-a-gwa (3-sg-pres)-fall	na-u-gwe (3-sg-fut)-fall
14pl)milimi (the)-tongues	i-gwa (4-pl-past)-fall	ya-gwa (4-pl-pres)-fall	ne-i-gwe (4-pl-fut)-fall
14pl)nyuta (the)-bows	zi-gwa (10-pl-past)-fall	za-gwa (10-pl-pres)-fall	na-zi-gwe (10-pl-fut)-fall
14pl)nyumbo (the)-intestines	zi-gwa (10-pl-past)-fall	za-gwa (10-pl-pres)-fall	na-zi-gwe (10-pl-fut)-fall

Notice the distinction between Class 3 [mnyau] 'cat' and class 3 [mtedha] 'peanut'. Class 3 animate nouns select those verbal prefixes associated with Class 1, yet consistently appear as a class 4 plural. Once again by using plurality as a diagnostic for gender assignment this issue can be resolved: We know that the plural form of all animate nouns which behave like [mnyau] 'cat' become class 4 when plural, and therefore assume them to be class 3 *animate* nouns. This phenomenon indicates that semantic concerns, such as animacy, may indeed play a role in determining the agreement requirements of certain classes, namely class 3. Yet as this phenomenon is restricted to class 3 and only effects semantically marked *animate* lexemes, a feature which acts on both internal and external agreement, one must conclude that class 3 animate and inanimate nouns are simply different beasts. Given the form and consistency of this sub-class, it is assigned its own Gender, Ba, which reflects the

fact that this gender agrees as 4 when plural but 1 when singular, and that it is a semantic amalgam of Genders B and A.

Recall that when observing the NP-internal agreement, that class 14 requires class 3 CPs on modifying elements. This observation compared with the external requirements of class 14 nouns indicates that this hijacked class agreement also occurs externally. Similarly the class 14pl exhibited class 10 and 4 forms of agreement on NP-internal elements, and as can be confirmed above, classes 10 and 4 also serve as the form of verbal agreement between the head NP and its verb. Class 12, while similar to class 1 in past-tense constructions, consistently selects a /ka-/ prefix for both internal and external agreement, but plural behaves differently. As can be seen in section 2, the plural of class 12 nouns patterns as class 2 in both nominal and NP-internal CPs; Similarly, when plural external agreement also surfaces as class 2.

Yet again it is useful to have a formal mechanism for capturing the requirements of each noun class and its agreeing modifying elements. Using the well-attested concept of inheritance once again allows for this rule to take form. Much like the Rule of NP-Internal Inheritance, which specifies the spreading of AGR values from the head noun to its phrasal sisters, this rule will require head verbal elements to agree with their respective subject head's AGR specifications, i.e. the value of the AGR specification of the subject NP is both visible to and compulsory for the sentential verb.

The Rule of NP-External Inheritance

Verbal heads must have identical AGR values to their specified subject noun heads.

With rules of inheritance at hand, the effects of conjunction/coordination of two like noun classes will be observed, in order to understand how the system of agreement under coordination works. To exemplify this phenomenon, *Figure 6* provides data which bare directly on this topic. Combinations of 'N *and* N fell' where N is a noun of one particular noun class will shed light on what is to be expected in coordinated structures. Preliminarily, one might expect to see the class plural CP on the verbal element, as there is no conflict inherent in such structures, i.e. one expects to find 'Class 1 *and* Class 1' resolved as 'class 2 CP-verb'.

Table 7: X-X Noun Coordination

Coordinated Class	Subject-Verb Agreement
CP-Resolve	Gloss
1 + 1	mgosi yuno na mvere yudja wa -gwa
Class 2	This man and that woman fell.
1 + 1	mndere yudja na mgosi yuno wa -gwa
Class 2	That maiden and this man fell.
2 + 2	wagosi wano na wavere wadja wa -gwa
Class 2	These men and those women fell.
2 + 2	wandere wadja na wagosi wano wa -gwa
Class 2	Those maidens and these men fell.

3i + 3i	mtedha uno na mtwi udja i -gwa
Class 4	This peanut and that head fell.
3i + 3i	mgongo udja na mtedha uno i -gwa
Class 4	That back and this peanut fell.
3a + 3a	mnyau yuno na mtabwali yudja i -gwa
Class 4	This cat and that vulture fell.
4 + 4	mittedha ino na migongo idja i -gwa
Class 4	These peanuts and those backs fell.
4 + 4	mitwi ino na mitedha idja i -gwa
Class 4	These heads and those peanuts fell.
5 + 5	bambo dino na dole didja ya -gwa
Class 6	This stork and that finger fell.
5 + 5	wata didja na bambo dino ya -gwa
Class 6	That duck and this stork fell.
6 + 6	mabambo jano na madole jadja ya -gwa
Class 6	These storks and those fingers fell.
6 + 6	mavuha jadja na madole jano ya -gwa
Class 6	Those bones and these fingers fell.
7 + 7	chibonkho chino na chirole chidja vi -gwa
Class 8	This hippo and that mirror fell.
7 + 7	chisuse chidja na chitabu chino vi -gwa
Class 8	That scorpion and this book fell.
8 + 8	vibonkho vino na virole vidja vi -gwa
	hippos (8)-these and mirrors (8)-those (8)-fell
Class 8	These hippos and those mirrors fell.
8 + 8	visuse vidja na vitabu vino vi -gwa
	scorpions (8)-those and books (8)-these (8)-fell
Class 8	Those scorpions and these books fell.
9 + 9	ngolowe ino na ngwena idja zi -gwa
Class 10	This cow and that crocodile fell.
9 + 9	ngola idja na ngolowe ino zi -gwa
Class 10	That knife and this cow fell.
10 + 10	ngolowe zino na ngwena zidja zi -gwa
Class 10	These cows and those crocodiles fell.
10 + 10	ngola zidja na ngolowe zino zi -gwa
Class 10	Those knives and these crocodiles fell.
12 + 12	kahuji kano na kabuga kadja wa -gwa
Class 2	This hawk and that rabbit fell.
12 + 12	kaloga kadja na kabuga kano wa -gwa
Class 2	That duiker and this rabbit fell.
2-12 + 2-12	wahuji wano na wabuga wadja wa -gwa
Class 2	These hawks and those rabbits fell.
2-12 + 2-12	waloga wadja na wabuga wano wa -gwa

Class 2	Those duikers and these rabbits fell.
14 + 14	ulimi uno na utombo udja i -gwa
Class 4	This tongue and that intestine fell.
14 + 14	uta uno na ulimi udja i -gwa
Class 4	This bow and that tongue fell.
14pl + 14pl	milimi ino na nyuta idja i -gwa
Class 4	These tongues and those bows fell.
14pl + 14pl	nyuta zino na nyimi zidja zi -gwa
Class 10	These bows and those tongues fell.

In *Figure 7* one sees that in all instances a sg + sg combination results in plural class forms, and that these class forms correspond to the expected plural class of the individual noun, i.e. *mgosi na mvere wa-gwa* 'a man and a woman fell' selects the plural prefix that corresponds to *mgosi*'s plural, class 2, and *mvere*'s plural, class 2. This means, that coordination combines two elements and makes an inherently plural element, as both elements constitute, regardless of class and plurality, more than one thing (Givon 1970, Corbett 1991). Although this structure functions as one syntactic unit, it agrees externally as a plural unit given the inherent semantic consequences of conjunction. Yet the potential to combine elements in a conjuncted structure is not limited to combinations of two elements from the same class. One can easily conceive of situations in this language where elements of different noun classes 'fall together', and this is important. In such structures, it can no longer be predicted which class's plural will be selected to represent the conjuncted entity, and thus is born a structure with conflicted classes. Up until this point, one has the necessary technology to account for agreement both NP-internally, NP-externally, and when two elements of the same noun class are conjuncted, but the results of a gender-conflicted structure remain somewhat enigmatic. This will be the topic of the next section, and the crux of this thesis.

4 Gender Conflict

As indicated in the last section, the current theory of agreement has looked at all necessary structures, barring those which exhibit gender conflict. Given that coordination serves as a system for determining this, the following discourse will look at the results of coordinating each class with several other tokens of other noun classes, which will reveal the method used to resolve the agreement of these structures. A class by class introduction will be necessary in order to present the data in a somewhat manageable manner. The class in question will be combined with each noun class 2 times with a certain order and once with a different order. This is done in order to demonstrate that order has no effect on the conjuncted structure. This will provide a total of 3 Class + other class tokens. In doing so, the ordering of logical precedence inherent to the resolution will become apparent.

4.1 Gender A + Else

Examples of class 1 nouns in coordination with other class nouns can be found below, which demonstrate the outcome of combinations involving Class 1 and each respective class. Note

that each class need not coordinate with itself given that this has already been explained in *Figure 6* of the preceding section.

Table 8: Class 1 + Else

Class Combination	Combination + ku-gwa 'to fall'	Resolution	Gloss
1 + Gender A			
1 + 2	mgosi yuno na wavere wano wa -gwa	Class 2	This man and these women fell.
2 + 1	wandere wadja na mvre yuno wa -gwa	Class 2	These maidens and this woman fell.
1 + 2	mgosi yuno na wandere wano wa -gwa	Class 2	This man and these maidens fell.
1 + 3i	mgosi yuno na mtedha uno wa -gwa	Class 2	This man and this peanut fell.
3i + 1	mtwi udja na mvre yangu wa -gwa	Class 2	That head and my woman fell.
1 + 3i	mgosi yuno na mtwi uno wa -gwa	Class 2	This man and this head fell.
1 + Gender B			
1 + 3a	mvre yudja na mnyau yuno wa -gwa	Class 2	That man and this cat fell.
3a + 1	mnyau yudja na mgosi yangu wa -gwa	Class 2	That cat and my man fell.
1 + 3a	mtabwali yuno na mndere yuno wa -gwa	Class 2	This vulture and this maiden fell.
1 + 4	mgosi yuno na mitedha idja wa -gwa	Class 2	This man and those peanuts fell.
4 + 1	mitwi ino na mvre yudja wa -gwa	Class 2	These heads and that woman fell.
1 + 4	mvre yudja na mitedha ino wa -gwa	Class 2	That woman and these peanuts fell.
1 + Gender C			
1 + 5	mgosi yuno na bambo dino wa -gwa	Class 2	This man and this marabou stork fell.
5 + 1	dole didja na mvre yuno wa -gwa	Class 2	That finger and this woman fell.
1 + 5	mvre yudja na wata dino wa -gwa	Class 2	That woman and this duck fell.
1 + 6	mgosi yuno na mabambo yano wa -gwa	Class 2	This man and these marabou storks fell.
6 + 1	madole yadja na mvre yuno wa -gwa	Class 2	Those fingers and this woman fell.
1 + 6	mndere yudja na mawata yano wa -gwa	Class 2	That maiden and these ducks fell.
1 + Gender D			
1 + 7	mgosi yuno na chibonkho chino wa -gwa	Class 2	This man and this hippo fell.
7 + 1	chirole chidja na mgosi yuno wa -gwa	Class 2	That mirror and this man fell.
1 + 7	mvre yuno na chisuse chidja wa -gwa	Class 2	This woman and that scorpion fell.
1 + 8	mvre yuno na vibonkho vino wa -gwa	Class 2	This woman and these hippos fell.
8 + 1	virole vidja na mgosi yudja wa -gwa	Class 2	Those mirrors and that man fell.
1 + 8	mvre yudja na visuse vino wa -gwa	Class 2	That woman and these scorpions fell.
1 + Gender E			
1 + 9	mvre yuno na ngolowe ino wa -gwa	Class 2	This woman and this cow fell.
9 + 1	mgosi yuno na ngwena idja wa -gwa	Class 2	This man and that crocodile fell.
1 + 9	ngola ino na mndere yuno wa -gwa	Class 2	This knife and this maiden fell.
1 + 10	mvre yudja na ngolowe zino wa -gwa	Class 2	That woman and these cows fell.
10 + 1	ngwena zino na mgosi yuno wa -gwa	Class 2	These crocodiles and this man fell.
1 + 10	mvre yuno na ngola zidja wa -gwa	Class 2	This woman and those knives fell.
2 + Gender F			
1 + 12	mvre yuno na kabuga kano wa -gwa	Class 2	This woman and this rabbit fell.
12 + 1	kahuji kadja na mgosi yudja wa -gwa	Class 2	That hawk and that man fell.
1 + 12	mndere yuno na kaloga kano wa -gwa	Class 2	This maiden and this duiker fell.
1 + Gender G			
1 + 14	mgosi yuno na ulimi uno wa -gwa	Class 2	This man and this tongue fell.
14 + 1	uta udja na mvre yudja wa -gwa	Class 2	That bow and that woman fell.
1 + 14	mvre yudja na utumbo uno wa -gwa	Class 2	That woman and this intestine fell.
1 + 14pl	mvre yuno na milimi zino wa -gwa	Class 2	This woman and these tongues fell.
14pl + 1	nyuta zidja na mgosi uno wa -gwa	Class 2	Those bows and this man fell.
1 + 14pl	mvre yudja na nyumbo zidja wa -gwa	Class 2	That woman and those intestines fell.

From the above, an interesting ordering emerges. It appears that all classes when combined with Class 1 result in the adoption of a Class 2 [wa-] verbal prefix. This indicates and exemplifies the existence of an asymmetrical distribution in which Class 1 generally wins out. Given the patterns of conflict resolution from Class 1 combination, one ought to check these findings against other classes to see if such a pattern applies consistently throughout all noun classes. Assuming that all class 1 conflicted structures result in a class 2 agreement morpheme, one would expect to find similar agreement patterns in class 2 combinations, as Class 2 is the Gender A-specified plural class of Class 1. The following figure presents all possible permutation of 'Class 2 + other' except Class 1, as it has already been considered in Section 4.1. This figure also confirms that Gender A is deserving of rank 1 in terms of logical precedence.

Table 9: Class 2 + Else

Class Combination	Combination + ku-gwa 'to fall'	Resolution	Gloss
2 + Gender B			
2 + 3i	wagosi wano na mtedha uno wa -gwa	Class 2	These men and this peanut fell.
3i + 2	mtwi udja na wavere wangu wa -gwa	Class 2	That head and my women fell.
2 + 3i	wagosi wano na mtwi uno wa -gwa	Class 2	These men and this head fell.
2 + Gender B _a			
2 + 3a	wavere wadja na mnyau wano wa -gwa	Class 2	Those men and this cat fell.
3a + 2	mnyau yudha na wagosi wangu wa -gwa	Class 2	That cat and my men fell.
2 + 3a	mtabwali wano na wandere wano wa -gwa	Class 2	This vulture and these maidens fell.
2 + 4	wagosi wano na mitedha idja wa -gwa	Class 2	These men and those peanuts fell.
4 + 2	mitwi ino na wavere wadja wa -gwa	Class 2	These heads and those women fell.
2 + 4	wavere wadja na mitedha ino wa -gwa	Class 2	Those women and these peanuts fell.
2 + Gender C			
2 + 5	wagosi wano na bambo dino wa -gwa	Class 2	These men and this maribou stork fell.
5 + 2	dole didja na wavere wano wa -gwa	Class 2	That finger and these women fell.
2 + 5	wavere wadja na wata dino wa -gwa	Class 2	Those women and this duck fell.
2 + 6	wagosi wano na mabambo yano wa -gwa	Class 2	These men and these maribou storks fell.
6 + 2	madole yadja na wavere wano wa -gwa	Class 2	Those fingers and these women fell.
2 + 6	wandere wadja na mawata yano wa -gwa	Class 2	Those maidens and these ducks fell.
2 + Gender D			
2 + 7	wagosi wano na chibonkho chino wa -gwa	Class 2	These men and this hippo fell.
7 + 2	chirole chidja na wagosi wano wa -gwa	Class 2	Those mirror and these men fell.
2 + 7	wavere wano na chisuse chidja wa -gwa	Class 2	These women and that scorpion fell.
2 + 8	wavere wano na vibonkho vino wa -gwa	Class 2	These women and these hippos fell.
8 + 2	virole vidja na wagosi wadja wa -gwa	Class 2	Those mirrors and those men fell.
2 + 8	wavere wadja na visuse vino wa -gwa	Class 2	Those women and these scorpions fell.
2 + Gender E			
2 + 9	wavere wano na ngolowe ino wa -gwa	Class 2	These women and this cow fell.
9 + 2	wagosi wano na ngwena idja wa -gwa	Class 2	These men and that crocodile fell.
2 + 9	ngola ino na wandere wano wa -gwa	Class 2	This knife and these maidens fell.
2 + 10	wavere wadja na ngolowe zino wa -gwa	Class 2	Those women and these cows fell.
10 + 2	ngwena zino na wagosi wano wa -gwa	Class 2	These crocodiles and these men fell.
2 + 10	wavere wano na ngola zidja wa -gwa	Class 2	These women and those knives fell.
2 + Gender F			
2 + 12	wavere wano na kabuga kano wa -gwa	Class 2	These women and this rabbit fell.
12 + 2	kahuji kadja na wagosi wadja wa -gwa	Class 2	That hawk and those men fell.
2 + 12	wandere wano na kaloga kano wa -gwa	Class 2	These maidens and this duiker fell.

2 + Gender G				
2 + 14	wagosi wano na ulimi uno wa -gwa	Class 2	These men and this tongue fell.	
14 + 2	uta udja na wavere wadja wa -gwa	Class 2	That bow and those women fell.	
2 + 14	wavere wadja na utumbo uno wa -gwa	Class 2	Those women and this intestine fell.	
2 + 14pl	wavere wano na milimi ino wa -gwa	Class 2	These women and these tongues fell.	
14pl + 2	nyuta zidja na wagosi uno wa -gwa	Class 2	Those bows and these men fell.	
2 + 14pl	wavere wadja na nyumbo zidja wa -gwa	Class 2	Those women and those intestines fell.	

From the above, one sees that it is no coincidence that Class 1 combinations resulted in consistent Class 2 resolution, as Class 2 combinations reveal, Gender A has some form of promoted status among the CPs, which allows it to 'trump' all other CPs in the language, when competing for AGR specification. In not one instance of the data does this fact not hold. With the introduction of more gender conflicted conjunctions, and indeed other such rankings will become apparent. Proceeding in alpha-numeric order Gender B/Classes 3 & 4 will be the next items considered and as one will see, it has the second lowest logical priority in this language.

4.2 Gender B + Else

Both Class 3 and Class 4 potential permutations are presented below, which do not consider combinations with Gender A, as this is discussed above. Recalling that this gender is split into two types inspired by animacy, one must account for both subcategories. Appealing to what is already known sheds light on the task at hand, as sufficient evidence exists to consider Class 3a identical in agreement specifications with Class 1 (SEC 2). Given their Class 1 agreement, and that all conflicts involving Gender A resolve to Class 2 verbal agreement, it is intuitively the case, that Class 3a resolves gender conflicted structures without exception as Class 2. The plural form, however, remains unknown as it, much like its inanimate class sister, 3i, is realized as Class 4. The effects of Class 4 plurals in coordinated conflicted structures is presented below.

Table 10: Class 3i + Else

Class Combination

Combination + ku-gwa 'to fall'	Resolution	Gloss	
3i + Gender B			
3a + 3i	mnyau yuno na mtedha uno wa -gwa	Class 2	This cat and this peanut fell.
3i + 3a	mtwi udja na mnyau yangu wa -gwa	Class 2	That head and my cat fell.
3a + 3i	mnyau yuno na mtwi uno wa -gwa	Class 2	This cat and this head fell.
3i + 4	mtedha uno na mitedha idja i -gwa	Class 4	This peanut and those peanuts fell.
4 + 3i	mitwi ino na mtedha udja i -gwa	Class 4	These heads and that peanut fell.
3i + 4	mtedha udja na mitedha ino i -gwa	Class 4	That peanut and these peanuts fell.
3i + Gender C			
3i + 5	mtedha uno na bambo dino i -gwa	Class 4	This peanut and this maribou stork fell.
5 + 3i	dole didja na mtwi uno i -gwa	Class 4	That finger and this tree fell.
3i + 5	mtedha uno na wata dino i -gwa	Class 4	This peanut and this duck fell.
3i + 6	mtwi uno na mabambo yano i -gwa	Class 4	This tree and these maribou storks fell.
6 + 3i	madole yadja na mtedha uno i -gwa	Class 4	These fingers and this peanut fell.
3i + 6	mtwi uno na mawata yano i -gwa	Class 4	This tree and these ducks fell.
3i + Gender D			
3i + 7	mtwi uno na chibonkho chino vi -gwa	Class 8	This head and this hippo fell.

7 + 3i	chirole chidja na mtwi uno vi -gwa	Class 8	Those mirror and this head fell.
3i + 7	mtedha uno na chisuse chidja vi -gwa	Class 8	This peanut and that scorpion fell.
3i + 8	mtedha uno na vibonkho vino vi -gwa	Class 8	This peanut and these hippos fell.
8 + 3i	virole vidja na mtwi udja vi -gwa	Class 8	Those mirrors and that head fell.
3i + 8	mtedha udja na visuse vino vi -gwa	Class 8	That peanut and these scorpions fell.
3i + Gender E			
3i + 9	mtedha uno na ngolowe ino zi -gwa	Class 10	This peanut and this cow fell.
9 + 3i	mtwi uno na ngwena idja zi -gwa	Class 10	This head and that crocodile fell.
3i + 9	ngola ino na mtwi uno zi -gwa	Class 10	This knife and this head fell.
3i + 10	mtedha udja na ngolowe zino zi -gwa	Class 10	That peanut and these cows fell.
10 + 3i	ngwena zino na mtwi uno zi -gwa	Class 10	These crocodiles and this head fell.
3i + 10	mtedha uno na ngola zidja zi -gwa	Class 10	This peanut and those knives fell.
3i + Gender F			
3i + 12	mtedha uno na kabuga kano wa -gwa	Class 2	This peanut and this rabbit fell.
12 + 3i	kahuji kadja na mtwi udja wa -gwa	Class 2	That hawk and that head fell.
3i + 12	mtedha udja na kaloga kano wa -gwa	Class 2	That peanut and this duiker fell.
3i + Gender G			
3i + 14	mtwi uno na ulimi uno i -gwa	Class 4	This head and this tongue fell.
14 + 3i	uta udja na mtedha udja i -gwa	Class 4	That bow and that peanut fell.
3i + 14	mtedha udja na utumbo uno i -gwa	Class 4	That peanut and this intestine fell.
3i + 14pl	mtedha uno na milimi ino i -gwa	Class 4	That peanut and these tongues fell.
14pl + 3i	nyuta zidja na mtedha uno zi -gwa	Class 10	Those bows and this peanut fell.
3i + 14pl	mtedha udja na nyumbo zidja zi -gwa	Class 10	That peanut and those intestines fell.

Here, one is confronted with the fact that some inherent ordering among noun classes must be present, as several possibilities for conflict resolution seem to be at work. Take for instance the result of combining Class 3 and Gender C (Classes 5 & 6). In all constructions of this type, the conflict is resolved with Class 4 agreement. This indicates that in some way Class 3 'wins out' over the competing Gender C conjunction sisters. Yet, one sees a fine contrast between the results of Gender A conjunction compared with Gender B constructions, as in all instances Gender A results in Class 2 resolution, yet constructions of Gender B, do not have the same distribution, or logical precedence: i.e. Gender B is less logically ordered than Gender A. To what degree this specificity varies will become the appear ant with a better understanding of how other genders are ordered. To clarify, take as an example the interaction of Genders D & E (Classes 7 & 8, and 9 & 10 respectively): Here, Class 3 does not 'win out' as was the case with Gender A. Constructions of this type resolve to the verbal morphology associated with Classes 8 & 10 respectively. This once again indicates that some form of ordering exists within the set of potential genders, which is responsible for the asymmetrical distributions already incurred by the data. Luckily, some outcomes are already known, e.g. Gender A coordinated with anything agrees as Class 2, Gender B coordinated with itself or Gender C agrees as class 4, and that Genders D & E are somehow below Gender A in rank but above Gender B. To account for this, this analysis adopts the notion of logical precedence to rank and keep track of the classes occurrence when coordinated. Ranks will be assigned to each of the genders based on that gender's resolution, i.e. Gender A, as it occurs most consistently receives rank 1 in terms of logical precedence. To summarize this, the following figure provides rankings reflecting logical precedence, where **bold** typeface indicates previously discussed genders.

<i>Rank</i>	<i>Gender</i>	<i>Resolution</i>
1	A,F	Class 2
2	D	Class 8
3	E	Class 10
4	B	Class 4
5	C	Class 6

Instances of Class 4, the plural and coordinated default of Gender B, can be found in the following figure, which considers all possible permutations of data involving this plural class’s interactions under coordination, excluding those already considered.

Table 12: Class 4 + Else

Class Combination	Combination + ku-gwa ‘to fall’	Resolution	Gloss
4 + Gender B			
4 + 4	mittedha ino na mitedha idja i-gwa	Class 4	These peanuts and those peanuts fell.
4 + 4	mitwi ino na mitedha idja i-gwa	Class 4	These heads and those peanuts fell.
4 + 4	mittedha idja na mitedha ino i-gwa	Class 4	Those peanuts and these peanuts fell.
4 + Gender C			
4 + 5	mittedha ino na bambo dino i-gwa	Class 4	These peanuts and this maribou stork fell.
5 + 4	dole didja na mitwi ino i-gwa	Class 4	That finger and these heads fell.
4 + 5	mittedha ino na wata dino i-gwa	Class 4	These peanuts and this duck fell.
4 + 6	mitwi ino na mabambo yano i-gwa	Class 4	These heads and these maribou storks fell.
6 + 4	madole yadja na mitedha ino i-gwa	Class 4	These fingers and these peanuts fell.
4 + 6	mitwi ino na mawata yano i-gwa	Class 4	These heads and these ducks fell.
4 + Gender D			
4 + 7	mitwi ino na chibonkho chino vi-gwa	Class 8	These heads and this hippo fell.
7 + 4	chirole chidja na mitwi ino vi-gwa	Class 8	Those mirror and these heads fell.
4 + 7	mittedha ino na chisuse chidja vi-gwa	Class 8	These peanuts and that scorpion fell.
4 + 8	mittedha ino na vibonkho vino vi-gwa	Class 8	These peanuts and these hippos fell.
8 + 4	virole vidja na mitwi idja vi-gwa	Class 8	Those mirrors and those heads fell.
4 + 8	mittedha idja na visuse vino vi-gwa	Class 8	Those peanuts and these scorpions fell.
4 + Gender E			
4 + 9	mittedha ino na ngolowe ino zi-gwa	Class 10	These peanuts and this cow fell.
9 + 4	mitwi ino na ngwena idja zi-gwa	Class 10	These heads and that crocodile fell.
4 + 9	ngola ino na mitwi ino zi-gwa	Class 10	This knife and these heads fell.
4 + 10	mittedha idja na ngolowe zino zi-gwa	Class 10	Those peanuts and these cows fell.
10 + 4	ngwena zino na mitwi ino zi-gwa	Class 10	These crocodiles and these heads fell.
4 + 10	mittedha ino na ngola zidja zi-gwa	Class 10	These peanuts and those knives fell.
4 + Gender F			
4 + 12	mittedha ino na kabuga kano wa-gwa	Class 2	These peanuts and this rabbit fell.
12 + 4	kahuji kadja na mitwi idja wa-gwa	Class 2	That hawk and those heads fell.
4 + 12	mittedha idja na kaloga kano wa-gwa	Class 2	Those peanuts and this duiker fell.
4 + Gender G			
4 + 14	mitwi ino na ulimi uno i-gwa	Class 4	These heads and this tongue fell.
14 + 4	uta udja na mitedha idja i-gwa	Class 4	That bow and those peanuts fell.
4 + 14	mittedha idja na utumbo uno i-gwa	Class 4	Those peanuts and this intestine fell.
4 + 14pl	mittedha ino na milimi ino i-gwa	Class 4	Those peanuts and these tongues fell.
14pl + 4	nyuta zidja na mitedha ino zi-gwa	Class 10	Those bows and these peanuts fell.
4 + 14pl	mittedha idja na nyumbo zidja zi-gwa	Class 10	Those peanuts and those intestines fell.

Expanding the list of patterns, one ought to note a key relation between each singular class and its plural in the respective genders, namely that both classes of the each Gender agree with the plural classes specified verbal CP. In section 4.1, one saw that both classes 1 & 2, agreed as Class 2, now, looking to Gender B, both the singular and plural forms select the plural form, Class 4. This is important as it indicates that within a specific gender, both classes will agree as the plural class indicates, provided the logical rank is greater than the other conjunct daughter's rank. Yet, even in the instances where Class 3 or 4 lose with regard to precedence, e.g. against Gender A, D, and E, the resolution class appears as the plural realization of at very least one of the conjunct daughters. In order to account for this, it is necessary to incorporate one more feature in this analysis, namely **NUM**, number. NUM is a binary value, specifying either *sg* or *pl*, and serves the purpose when combined with AGR-values of determining singular vs. plural realizations of nominal stems. As conjunctions adopts an external NUM: pl value (Givon 1970), it will be necessary to specify this in the lexical rule of inheritance which captures coordination.

4.3 Gender C + Else

Pulling from what is already known, when looking into the distribution of Gender C, we know that it has a lesser ranking than Gender A, and B, given that in the already considered examples it has failed to display agreement. As it were, however, examples from Genders D, and E have not been considered and are therefore presented in the following figure. As in previous examples, all possible permutations except for those already observed are presented in the alpha-numeric order.

Table 13: Class 5 + Else

Class Combination	Combination + ku-gwa 'to fall'	Resolution	Gloss
5 + Gender C			
5 + 5	bambo dino na bambo dino ya -gwa	Class 6	This Maribou Stork and this maribou stork fell.
5 + 5	dole didja na dole dino ya -gwa	Class 6	That finger and this finger fell.
5 + 5	bambo dino na wata dino ya -gwa	Class 6	This Maribou Stork and this duck fell.
5 + 6	dole didja na mabambo yano ya -gwa	Class 6	That finger and these maribou storks fell.
6 + 5	madole yadja na bambo dino ya -gwa	Class 6	These fingers and this Maribou Stork fell.
5 + 6	dole didja na mawata yano ya -gwa	Class 6	This finger and these ducks fell.
5 + Gender D			
5 + 7	dole didja na chibonkho chino vi -gwa	Class 8	That finger and this hippo fell.
7 + 5	chirole chidja na dole didja vi -gwa	Class 8	Those mirror and that finger fell.
5 + 7	bambo dino na chisuse chidja vi -gwa	Class 8	This Maribou Stork and that scorpion fell.
5 + 8	bambo dino na vibonkho vino vi -gwa	Class 8	This Maribou Stork and these hippos fell.
8 + 5	virole vidja na dole didja vi -gwa	Class 8	Those mirrors and that finger fell.
5 + 8	bambo didja na visuse vino vi -gwa	Class 8	That Maribou Stork and these scorpions fell.
5 + Gender E			
5 + 9	bambo dino na ngolowe ino zi -gwa	Class 10	This Maribou Stork and this cow fell.
9 + 5	dole didja na ngwena idja zi -gwa	Class 10	That finger and that crocodile fell.
5 + 9	ngola ino na dole didja zi -gwa	Class 10	This knife and that finger fell.
5 + 10	bambo didja na ngolowe zino zi -gwa	Class 10	That Maribou Stork and these cows fell.
10 + 5	ngwena zino na dole didja zi -gwa	Class 10	These crocodiles and that finger fell.
5 + 10	bambo dino na ngola zidja zi -gwa	Class 10	This Maribou Stork and those knives fell.

5 + Gender F			
5 + 12	bambo dino na kabuga kano wa -gwa	Class 2	This Maribou Stork and this rabbit fell.
12 + 5	kahuji kadja na dole didja wa -gwa	Class 2	That hawk and that finger fell.
5 + 12	bambo didja na kaloga kano wa -gwa	Class 2	That Maribou Stork and this duiker fell.
5 + Gender G			
5 + 14	dole didja na ulimi uno i -gwa	Class 4	That finger and this tongue fell.
14 + 5	uta udja na bambo didja i -gwa	Class 4	That bow and that Maribou Stork fell.
5 + 14	bambo didja na utumbo uno i -gwa	Class 4	That Maribou Stork and this intestine fell.
5 + 14pl	bambo dino na milimi ino i -gwa	Class 4	That Maribou Stork and these tongues fell.
14pl + 5	nyuta zidja na bambo dino zi -gwa	Class 10	Those bows and this Maribou Stork fell.
5 + 14pl	bambo didja na nyumbo zidja zi -gwa	Class 10	That Maribou Stork and those intestines fell.

Class 5 has the most specified occurrence, i.e. it is realized as Class 6 in a conjunction *least* frequently given potential outcomes. One sees that in all instances involving conflicted gender, the other class is preferred to agree over Class 5. Under the lens of precedence, this means that class 5 is highly specified, and has the lowest rank of all genders, meaning that of all classes, Class 5 and presumably Class 6 will only occur when coordinated with another Class 5 or Class 6 conjunct sister. A look into class 6's outcomes against other classes will determine that this hypothesis holds.

Table 14: Class 6 + Else

Class Combination	Combination + ku-gwa 'to fall'	Resolution	Gloss
6 + Gender C			
6 + 5	mabambo yano na bambo dino ya -gwa	Class 6	These Maribou Storks and This Maribou Stork fell.
5 + 6	madole yadja na dole dino ya -gwa	Class 6	Those fingers and this finger fell.
6 + 5	mabambo yano na wata dino ya -gwa	Class 6	These Maribou Storks and this duck fell.
6 + 6	madole yadja na mabambo yano ya -gwa	Class 6	Those fingers and these maribou storks fell.
6 + 6	madole yadja na mabambo yano ya -gwa	Class 6	Those fingers and these Maribou Storks fell.
6 + 6	madole yadja na mawata yano ya -gwa	Class 6	Those fingers and these ducks fell.
6 + Gender D			
6 + 7	madole yadja na chibonkho chino vi -gwa	Class 8	Those fingers and this hippo fell.
7 + 6	chirole chidja na madole yadja vi -gwa	Class 8	That mirror and those fingers fell.
6 + 7	mabambo yano na chisuse chidja vi -gwa	Class 8	These Maribou Storks and that scorpion fell.
6 + 8	mabambo yano na vibonkho vino vi -gwa	Class 8	These Maribou Storks and these hippos fell.
8 + 6	virole vidja na madole yadja vi -gwa	Class 8	Those mirrors and those fingers fell.
6 + 8	mabambo yadja na visuse vino vi -gwa	Class 8	Those Maribou Storks and these scorpions fell.
6 + Gender E			
6 + 9	mabambo yano na ngolowe ino zi -gwa	Class 10	These Maribou Storks and this cow fell.
9 + 6	madole yadja na ngwena idja zi -gwa	Class 10	Those fingers and that crocodile fell.
6 + 9	ngola ino na madole yadja zi -gwa	Class 10	This knife and those fingers fell.
6 + 10	mabambo yadja na ngolowe zino zi -gwa	Class 10	Those Maribou Storks and these cows fell.
10 + 6	ngwena zino na madole yadja zi -gwa	Class 10	These crocodiles and those fingers fell.
6 + 10	mabambo yano na ngola zidja zi -gwa	Class 10	These Maribou Storks and those knives fell.
6 + Gender F			
6 + 12	mabambo yano na kabuga kano wa -gwa	Class 2	These Maribou Storks and this rabbit fell.
12 + 6	kahuji kadja na madole yadja wa -gwa	Class 2	That hawk and those fingers fell.
6 + 12	mabambo yadja na kaloga kano wa -gwa	Class 2	Those Maribou Storks and this duiker fell.
6 + Gender G			
6 + 14	madole yadja na ulimi uno i -gwa	Class 4	Those fingers and this tongue fell.
14 + 6	uta udja na mabambo yadja i -gwa	Class 4	That bow and those Maribou Storks fell.
6 + 14	mabambo yadja na utumbo uno i -gwa	Class 4	Those Maribou Storks and this intestine fell.

6 + 14pl	mabambo yano na milimi ino i -gwa	Class 4	Those Maribou Storks and these tongues fell.
14pl + 6	nyuta zidja na mabambo yano zi -gwa	Class 10	Those bows and These Maribou Storks fell.
6 + 14pl	mabambo yadja na nyumbo zidja zi -gwa	Class 10	Those Maribou Storks and those intestines fell.

As can now be confirmed, indeed it is the case that Gender C, both Class 6 and Class 5, cause agreement least frequently in such conflicted structures. Exactly as was the case with Class 5, only conjunctions involving two same daughters, both of Gender C, will result in a Class 6 prefix of agreement on the verbal head. Comparing this with the distribution of Genders A & B, one sees that Gender C is highly specified for one situation, whereas, Gender B occurs slightly more often, but none occur as often as Gender A. With the ranking of each class and gender pair beginning to take shape, the remaining classes behavior under such conditions are of great interest, as one already has an indication where Genders D & E will fall into this ranking. At this point the following ordered figure can be posited to help in keeping stock of the 6 classes thus observed.

Logical Precedence

<i>Logical Rank</i>	<i>Gender</i>	<i>Comprising Classes</i>	<i>Resolution</i>	<i>Specificity</i>
(1)	A ⁴	1, 2	Class 2	Least Specified
(2)	D	7, 8	Class 8	Less Specified
(3)	E	9, 10	Class 10	Less Specified
(4)	B	3, 4	Class 4	More Specified
(5)	C	5, 6	Class 6	Most Specified

While Genders D & E can be ranked, their distribution with respect to one another has yet to be considered. From previous data one can conclude that regardless of their interactions with one another, both genders are between Genders A and B, given that they are lower in rank than A, but higher ranked than B. Logical ranking arises as a gold standard in developing the now apparent hierarchical structure which is responsible for the selection of the conjunctions agreement. Following this train of thought, one must look to further examples of not yet considered classes in order to determine which of Genders D and E is higher in rank.

4.4 Gender D + Else

Gender D comprises Classes 7 and 8 and based on the small sample of their distribution it is clear that they are higher ranked than Genders B and C, but lower in rank than Gender A. The figure below contains permutations of Class 7 + Else, which as expected resolves to Class 8, the gender assigned plural of the pair.

Figure 15: Class 7 + Else

<i>Class Combination</i>	<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>
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⁴Certain genders appears in **boldface** font as they have been discussed. This is done as courtesy to the reader given the rather substantive nature to this topic.

7 + Gender D			
7 + 7	chibonkho chidja na chibonkho chino vi -gwa	Class 8	That hippo and this hippo fell.
7 + 7	chirole chidja na chibonkho chidja vi -gwa	Class 8	That mirror and That hippo fell.
7 + 7	chirole chino na chisuse chidja vi -gwa	Class 8	This mirror and that scorpion fell.
7 + 8	chirole chino na vibonkho vino vi -gwa	Class 8	This mirror and these hippos fell.
8 + 7	virole vidja na chibonkho chidja vi -gwa	Class 8	Those mirrors and that hippo fell.
7 + 8	chirole chidja na visuse vino vi -gwa	Class 8	That mirror and these scorpions fell.
7 + Gender E			
7 + 9	chirole chino na ngolowe ino vi -gwa	Class 8	This scorpion and this cow fell.
9 + 7	chibonkho chidja na ngwena idja vi -gwa	Class 8	That hippo and that crocodile fell.
7 + 9	ngola ino na chibonkho chidja vi -gwa	Class 8	This knife and That hippo fell.
7 + 10	chirole chidja na ngolowe zino vi -gwa	Class 8	That mirror and these cows fell.
10 + 7	ngwena zino na chibonkho chidja vi -gwa	Class 8	These crocodiles and That hippo fell.
7 + 10	chirole chino na ngola zidja vi -gwa	Class 8	This mirror and those knives fell.
7 + Gender F			
7 + 12	chirole chino na kabuga kano wa -gwa	Class 2	This mirror and this rabbit fell.
12 + 7	kahuji kadja na chibonkho chidja wa -gwa	Class 2	That hawk and That hippo fell.
7 + 12	chirole chidja na kaloga kano wa -gwa	Class 2	That mirror and this duiker fell.
7 + Gender G			
7 + 14	chibonkho chidja na ulimi uno vi -gwa	Class 8	That hippo and this tongue fell.
14 + 7	uta udja na chirole chidja vi -gwa	Class 8	That bow and That mirror fell.
7 + 14	chirole chidja na utumbo uno vi -gwa	Class 8	That mirror and this intestine fell.
7 + 14pl	chirole chino na milimi ino vi -gwa	Class 8	This mirror and these tongues fell.
14pl + 7	nyuta zidja na chirole chino vi -gwa	Class 8	Those bows and this mirror fell.
7 + 14pl	chirole chidja na nyumbo zidja vi -gwa	Class 8	That mirror and those intestines fell.

In all instance involving combinations between Class 7, excluding Gender A and Class 12, Class 8 is selected as the subject-agreeing verbal prefix. This is exactly what is to be expected given the previous examples. Furthermore, these data indicate that Gender D outranks Gender E, as not once in its encounters with conjunct sisters of Gender E, does the conjunct resolve to Class 10, instead consistent resolution to Class 8 occurs. This confirms the placement of Gender D as rank 2 in terms of distribution. Looking now to Class 8, in accordance with the current theory of agreement, one expects to find an identical distribution with that of its gender sister, Class 7, as all previously considered genders have have done.

Table 16: Class 8 + Else

<i>Class Combination</i>	<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>
8 + Gender D			
8 + 8	virole vino na vibonkho vino vi -gwa	Class 8	These mirrors and these hippos fell.
8 + 8	virole vidja na vibonkho vidja vi -gwa	Class 8	Those mirrors and those hippos fell.
8 + 8	virole vidja na visuse vino vi -gwa	Class 8	Those mirrors and these scorpions fell.

8 + Gender E			
8 + 9	virole vino na ngolowe ino vi -gwa	Class 8	These mirrors and this cow fell.
9 + 8	vibonkho vidja na ngwena idja vi -gwa	Class 8	Those hippos and that crocodile fell.
8 + 9	ngola ino na vibonkho vidja vi -gwa	Class 8	This knife and Those hippos fell.
8 + 10	virole vidja na ngolowe zino vi -gwa	Class 8	Those mirrors and these cows fell.
10 + 8	ngwena zino na vibonkho vidja vi -gwa	Class 8	These crocodiles and those hippos fell.
8 + 10	virole vino na ngola zidja vi -gwa	Class 8	These mirrors and those knives fell.
8 + Gender F			
8 + 12	virole vino na kabuga kano wa -gwa	Class 2	These mirrors and this rabbit fell.
12 + 8	kahuji kadja na vibonkho vidja wa -gwa	Class 2	That hawk and those hippos fell.
8 + 12	virole vidja na kaloga kano wa -gwa	Class 2	Those mirrors and this duiker fell.
8 + Gender G			
8 + 14	vibonkho vidja na ulimi uno vi -gwa	Class 8	Those hippos and this tongue fell.
14 + 8	uta udja na virole vidja vi -gwa	Class 8	That bow and those mirrors fell.
8 + 14	virole vidja na utumbo uno vi -gwa	Class 8	Those mirrors and this intestine fell.
8 + 14pl	virole vino na milimi ino vi -gwa	Class 8	These mirrors and these tongues fell.
14pl + 8	nyuta zidja na virole vino vi -gwa	Class 8	Those bows and these mirrors fell.
8 + 14pl	virole vidja na nyumbo zidja vi -gwa	Class 8	Those mirrors and those intestines fell.

As indicated from the data above, Gender D conflicted structures resolve to Class 8 when involved in such coordinated structures. This goes along quite well with the observation that within a gender assignment, the plural class will be selected for CP agreement. Having now observed the agreement behaviors of both classes within the gender, one can confirm Gender D's placement as rank 2. This is the case, as Gender D consistently 'wins out' over other competing genders, except of course for Gender A, which still remains maintain rank 1. Aside from Gender A's distributional frequency revealed in Figures 8 & 9, a secondary form of confirmation is found in the results of combinations between Gender F and Gender D. Gender F, which comprises Class 12 singular and Class 2 plural, ought to resolve to Class 2 consistently given what is already known about the nature of Class 2 coordinates. This exact situation occurs in Figure 16 above, as the coordinated structures resolves to Class 2, which can be seen by the /wa-/ CP on the verb. Furthermore, this means intuitively, that Gender D is ranked below Gender F.

With what is now known about the hierarchical structure of this asymmetrical distribution, it would be wise to revisit Figure 14, so as to keep a running tally of these asymmetrical distributions. Gender A is still has the highest rank of the genders, yet it must be noted that Gender F also has the same rank, resolving to Class 2 much like Gender A. This equality between genders will be discussed in section 4.6, which aims at accounting for their similarities. Even without understanding the fine-grained distinction between Genders A and F, one can be sure that they have the highest rank and belong at the top of the revisited Figure 14. Next must be Gender D, as Tables 7-16 indicate, followed by Gender E, and lastly Genders B and C. Figure 17 proposes the new order of precedence given these concerns.

Table 17: Confirmed Ranking of Logical Precedence

<i>Logical Rank</i>	<i>Gender</i>	<i>Comprising Classes</i>	<i>Resolution</i>	<i>Specificity</i>
(1)	A	1, 2	Class 2	Least Specified
(1)	F	12, 2	Class 2	Least Specified
(2)	D	7, 8	Class 8	Less Specified
(3)	E	9, 10	Class 10	Less Specified
(4)	B	3, 4	Class 4	More Specified
(5)	C	5, 6	Class 6	Most Specified

While Figure 17 nears completion, it still remains uncertain about two genders, and makes no mention of Gender G, which comprises Classes 14, 4, and 10. Although one can preemptively conclude that Gender F receives rank 1, it cannot be concluded with certainty unless its distribution is thoroughly examined. Similarly, Gender E, while placed as the 3rd in CP distribution, must earn this place through a more thorough examination. Looking to resolve this, Gender E's behavior has been observed against Genders A, B, C, and D, leaving only F and G to consider.

4.5 Gender E + Else

In order to rank genders, one must thoroughly and exhaustively consider all permutations of conflicted structures. In accordance with this line of thought, it would be most useful to consider coordinated structures involving Gender E + Else. Figure 18 below, provides several tokens of Gender E + Classes 9, 10, 12, and 14, recalling that the effects of preceding genders have been discussed. One anticipates that Gender E will be medial in rank, given that it is more specified than Genders A, F, and D, but less specified than Genders B and C.

Table 18: Class 9 + Else

<i>Class Combination</i>	<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>
9 + Gender E			
9 + 9	ngola ino na ngolowe ino zi -gwa	Class 10	This knife and this cow fell.
9 + 9	ngola idja na ngwena idja zi -gwa	Class 10	That knife and that crocodile fell.
9 + 9	ngola ino na ngola idja zi -gwa	Class 10	This knife and that knife fell.
9 + 10	ngolowe ino na ngolowe zino zi -gwa	Class 10	This cow and these cows fell.
10 + 9	ngwena zino na ngola idja zi -gwa	Class 10	These crocodiles and that knife fell.
9 + 10	ngola ino na ngola zidja zi -gwa	Class 10	This knife and those knives fell.
9 + Gender F			
9 + 12	ngola ino na kabuga kano wa -gwa	Class 2	This knife and this rabbit fell.
12 + 9	kahuji kadja na ngola idja wa -gwa	Class 2	That hawk and that knife fell.
9 + 12	ngolowe ino na kaloga kano wa -gwa	Class 2	This cow and this duiker fell.
9 + Gender G			
9 + 14	ngola idja na ulimi uno zi -gwa	Class 10	That knife and this tongue fell.
14 + 9	uta udja na ngolowe ino zi -gwa	Class 10	That bow and this cow fell.
9 + 14	ngolowe ino na utumbo uno zi -gwa	Class 10	This cow and this intestine fell.
9 + 14pl	ngola ino na milimi ino zi -gwa	Class 10	This knife and these tongues fell.

14pl + 9	nyuta zidja na ngola ino zi -gwa	Class 10	Those bows and this knife fell.
9 + 14pl	ngolowe ino na nyumbo zidja zi -gwa	Class 10	This cow and those intestines fell.

The above data partially confirm Gender E's placement in Figure 17, as these missing data indicate that Class 9 resolves to Class 10, just in case the coordination does not involve Genders A, F, or D. One also sees that in instances involving coordinate sisters from Class 14, in which competing agreement CPs are between Classes 4 and 10, Class 10 is selected as the resolution confirming yet again that Gender E has a higher rank than either Genders B or C. Looking now to the plural, Class 10, one awaits with near certainty that its CP distribution will be identical with Class 9's, which adds one more token to our hypothesis on the ontology of gender.

Table 19: Class 9 + Else

<i>Class Combination</i>	<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>
10 + Gender E			
10 + 9	ngola zino na ngolowe ino zi -gwa	Class 10	These knives and this cow fell.
9 + 10	ngola idja na ngwena zidja zi -gwa	Class 10	That knife and those crocodiles fell.
10 + 9	ngola zino na ngola idja zi -gwa	Class 10	These knives and that knife fell.
10 + 10	ngolowe zino na ngolowe zino zi -gwa	Class 10	These cows and these cows fell.
10 + 10	ngwena zino na ngola zidja zi -gwa	Class 10	These crocodiles and those knives fell.
10 + 10	ngola zino na ngola zidja zi -gwa	Class 10	These knives and those knives fell.
10 + Gender F			
10 + 12	ngola zino na kabuga kano wa -gwa	Class 2	These knives and this rabbit fell.
12 + 10	kahuji kadja na ngola zidja wa -gwa	Class 2	That hawk and those knives fell.
10 + 12	ngolowe zino na kaloga kano wa -gwa	Class 2	These cows and this duiker fell.
10 + Gender G			
10 + 14	ngola idja na ulimi uno zi -gwa	Class 10	Those knives and this tongue fell.
14 + 10	uta udja na ngolowe ino zi -gwa	Class 10	That bow and these cows fell.
10 + 14	ngolowe ino na utumbo uno zi -gwa	Class 10	These cows and this intestine fell.
10 + 14pl	ngola zino na milimi ino zi -gwa	Class 10	These knives and these tongues fell.
14pl + 10	nyuta zidja na ngola zino zi -gwa	Class 10	Those bows and these knives fell.
10 + 14pl	ngolowe zino na nyumbo zidja zi -gwa	Class 10	These cows and those intestines fell.

The hypothesis that within a gender assignment, classes will agree in the plural also holds in this gender. The data of Class 10, indicate that in all instances, excluding Gender A, F, and D, a Class 10 plural marking is the preferred resolution. Given this gender's distribution, as seen above and in previous figures, it is the case that Gender E is the receives rank 3.

4.6 Gender F + Else

Recall that Gender F comprises Class 12 when singular, and completely adopts all aspects of Class 2 CP morphology when plural. As revealed by previous figures if Gender F is one of the conjunct daughters, then the Class 2 CP /wa-/ appears. For purposes of clarity, this means that when examining the remaining combinations it will only be necessary to look at singular Class 12 examples, and not of its plural, Class 2 (Figure 9).

Table 20: Class 12 + Else

Class Combination

<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>	
12 + Gender F			
12 + 12	kahuji kadja na kabuga kano wa -gwa	Class 2	That hawk and this rabbit fell.
12 + 12	kahuji kadja na kaloga kadja wa -gwa	Class 2	That hawk and that duiker fell.
12 + 12	kabuga kadja na kaloga kano wa -gwa	Class 2	That rabbit and this duiker fell.
12 + Gender G			
12 + 14	kahuji kadja na ulimi uno vi -gwa	Class 2	That hawk and this tongue fell.
14 + 12	uta udja na kaloga kano vi -gwa	Class 2	That bow and this duiker fell.
12 + 14	kaloga kano na utumbo uno vi -gwa	Class 2	This duiker and this intestine fell.
12 + 14pl	kabuga kadja na milimi ino vi -gwa	Class 2	That Rabbit and these tongues fell.
14pl + 12	nyuta zidja na kahuji kano vi -gwa	Class 2	Those bows and this hawk fell.
12 + 14pl	ngolowe zino na kaloga kadja vi -gwa	Class 2	These cows and that duiker fell.

As indicated above, Class 12 unsurprisingly resolves conflicted structures to Class 2, its expected plural form. As Class 2 serves as the highest in rank of the classes its characteristic /wa-/ prefix of verbal agreement appears just in case Gender A is involved in the conjunct. Yet as indicated above, Gender F also resolves as Class 2, and has identical rank. Given this, it will be useful to highlight a previous examples in which this ambiguity, albeit benign to our purposes, leads to complications in the analysis. This will be discussed thoroughly in Section 4.9, as it involves several classes, not just Gender F.

4.7 Gender G + Else

As a product of observing the CP resolution of all genders excluding Gender G, one can make some observation as to the state of agreement. Knowing that the singular Class 14 agrees as Class 3, it is safe to assume that this Gender will resolve to Class 4. Yet as mentioned in Section 3, Gender G exhibits hijacked agreement, and can occur as Class 10 or 4 in the plural. While inclinations point toward Class 4 being the preferred resolution of Class 14 conflicted structures, no firm answer is provided by previous data. Table 21 below, contains an instance of each combination of singular class 14 with all possible permutations of conjunct sisters. If indeed class 4 is the preferred resolution of this class, this will be evidenced by a Class 4 resolution when combining with Genders B and C, as they are of lesser than or equal rank as Class 4. Conversely, one would expect anything but Class 4 as a resolution CP when looking into combinations involving Gender G and Genders A, E, D, and F.

Table 21: Class 12 + Else

<i>Class Combination</i>	<i>Combination + ku-gwa 'to fall'</i>	<i>Resolution</i>	<i>Gloss</i>
1 + Gender G			
1 + 14	mgosi yuno na ulimi uno wa -gwa	Class 2	This man and this tongue fell.
14 + 1	uta udja na mvere yudja wa -gwa	Class 2	That bow and that woman fell.
1 + 14	mvere yudja na utumbo uno wa -gwa	Class 2	That woman and this intestine fell.
2 + Gender G			
2 + 14	wagosi wano na ulimi uno wa -gwa	Class 2	These men and this tongue fell.
14 + 2	uta udja na wavere wadja wa -gwa	Class 2	That bow and those women fell.
2 + 14	wavere wadja na utumbo uno wa -gwa	Class 2	Those women and this intestine fell.

3i + Gender G			
3i + 14	mtwi uno na ulimi uno i-gwa	Class 4	This head and this tongue fell.
14 + 3i	uta udja na mtedha udja i-gwa	Class 4	That bow and that peanut fell.
3i + 14	mtedha udja na utumbo uno i-gwa	Class 4	That peanut and this intestine fell.
4 + Gender G			
4 + 14	mitwi ino na ulimi uno i-gwa	Class 4	These heads and this tongue fell.
14 + 4	uta udja na mitedha idja i-gwa	Class 4	That bow and those peanuts fell.
4 + 14	mittedha idja na utumbo uno i-gwa	Class 4	Those peanuts and this intestine fell.
5 + Gender G			
5 + 14	dole didja na ulimi uno i-gwa	Class 4	That finger and this tongue fell.
14 + 5	uta udja na bambo didja i-gwa	Class 4	That bow and that Maribou Stork fell.
5 + 14	bambo didja na utumbo uno i-gwa	Class 4	That Maribou Stork and this intestine fell.
6 + Gender G			
6 + 14	madole yadja na ulimi uno i-gwa	Class 4	Those fingers and this tongue fell.
14 + 6	uta udja na mabambo yadja i-gwa	Class 4	That bow and those Maribou Storks fell.
6 + 14	mabambo yadja na utumbo uno i-gwa	Class 4	Those Maribou Storks and this intestine fell.
7 + Gender G			
7 + 14	chibonkho chidja na ulimi uno vi-gwa	Class 8	That hippo and this tongue fell.
14 + 7	uta udja na chirole chidja vi-gwa	Class 8	That bow and That mirror fell.
7 + 14	chirole chidja na utumbo uno vi-gwa	Class 8	That mirror and this intestine fell.
8 + Gender G			
8 + 14	vibonkho vidja na ulimi uno vi-gwa	Class 8	Those hippos and this tongue fell.
14 + 8	uta udja na virole vidja vi-gwa	Class 8	That bow and those mirrors fell.
8 + 14	virole vidja na utumbo uno vi-gwa	Class 8	Those mirrors and this intestine fell.
9 + Gender G			
9 + 14	ngola idja na ulimi uno zi-gwa	Class 10	That knife and this tongue fell.
14 + 9	uta udja na ngolowe ino zi-gwa	Class 10	That bow and this cow fell.
9 + 14	ngolowe ino na utumbo uno zi-gwa	Class 10	This cow and this intestine fell.
10 + Gender G			
10 + 14	ngola idja na ulimi uno zi-gwa	Class 10	Those knives and this tongue fell.
14 + 10	uta udja na ngolowe ino zi-gwa	Class 10	That bow and these cows fell.
10 + 14	ngolowe ino na utumbo uno zi-gwa	Class 10	These cows and this intestine fell.
12 + Gender G			
12 + 14	kahuji kadja na ulimi uno vi-gwa	Class 2	That hawk and this tongue fell.
14 + 12	uta udja na kaloga kano vi-gwa	Class 2	That bow and this duiker fell.
12 + 14	kaloga kano na utumbo uno vi-gwa	Class 2	This duiker and this intestine fell.

Looking now at the way in which Gender G resolves its singular elements, one sees that its distribution is identical with elements of Gender B. This confirms the notion that Class 14, when conflicted, resolves to Class 4 given that the external requirements on agreement of this class are those of Class 3. This helps in understanding the extend to which agreement is 'hijacked', as this indicates, that **all** agreement both internally and externally has been adopted by this class, e.g. Class 14 sg [u₁₄-tombo u₃-no u₃-gwa] 'this intestine fell' with Class 3 [m₃-tedha u₃-no u₃-gwa] 'this peanut fell'.

The plural of Class 14 mysteriously allows for a disjunction or free alternation between Classes 10 and 4. While the singular 14 acts as an element of of Gender B, its plural intuitively cannot have this same rank, in that it is split between Classes. Pulling from what is known, Class 10 outranks Class 4, as Class 4 is more specified. Given that either Class 10 or Class 4 will be adopted by the plural form of 14, one can assume that the respective ranks from either class will be adopted as

well. This means that when the Class 14 root /-utumbo/ appears as a plural conjunct daughter in Class 4 /mi-utumbo/ it will adopt Class 4's rank and distribution, yet, when the root adopts Class 10 plural form /n-utumbo/ it will act accordingly.

4.8 Summary of Coordinated Structures

Before introducing the analysis of this complex system of agreement, it will be useful to take stock of all things hitherto considered. The following figure contains one token of all instances necessary to rank classes, genders, and prefixes. This figure provides a sample sentence of the language, and looks solely at combinations involving different specifications of agreement, as same-same coordination has been discussed.

Table 22: Summary of Coordination

<i>Combination</i>	<i>Example</i>	<i>Gloss</i>	<i>Resolution</i>
1+3	mgosi na mtedha wa -gwa homti	The man and the peanut fell from the tree	Class 2
1+5	mgosi na vuha wa -gwa homti	The man and the bone fell from the tree	Class 2
1+7	mgosi na chibonkho wa -galuka	The man and the hippo fell over	Class 2
1+9	mgosi na ng'ombe wa -gwa homti	The man and the cow fell from the tree	Class 2
1+14	mgosi na utombo wa -gwa	The man the intestines fell	Class 2
3+1	mtedha na mgosi wa -gwa homti	The peanut and the man fell from the tree	Class 2
3+5	mtedha na vuha i -gwa	The peanut and the bone fell	Class 4
3+7	mtedha na chibonkho vi -gwa	The peanut and the hippo fell	Class 8
3+9	mtedha na ng'ombe zi -gwa	The peanut and the cow fell	Class 10
3+14	mtedha na utombo i -gwa	The peanut and the intestines fell	Class 4
5+1	vuha na mgosi wa -gwa homti	The bone and the man fell from the tree	Class 2
5+3	vuha na mtedha i -gwa homti	The bone and the peanut fell from the tree	Class 4
5+7	vuha na chirole vi -gwa homti	The bone and the mirror fell from the tree	Class 8
5+9	vuha na ng'ombe zi -gwa homti	The bone and the cow fell from the tree	Class 10
5+14	vuha na utombo i -gwa homti	The bone and the intestines fell from the tree	Class 4
7+1	chirole na mgosi wa -gwa homti	The mirror and the man fell from the tree	Class 2
7+3	chirole na mtedha vi -gwa homti	The mirror and the peanut fell from the tree	Class 8
7+5	chirole na vuha vi -gwa homti	The mirror and the bone fell from the tree	Class 8
7+9	chirole na ng'ombe vi -gwa	The mirror and the cow fell	Class 8
7+14	chirole na utombo vi -gwa	The mirror and the intestines fell	Class 8
9+1	ng'ombe na mgosi wa -gwa homti	The cow and the man fell from the tree	Class 2
9+3	ng'ombe na mtedha zi -gwa homti	The cow and the man fell from the tree	Class 10
9+5	ng'ombe na bavu zi -gwa homti	The cow and the maribou stork fell from the tree	Class 10
9+7	ng'ombe na chibonkho vi -gwa homti	The cow and the hippo fell from the tree	Class 8
9+14	ng'ombe na utombo zi -gwa homti	The cow and the intestines fell from the tree	Class 10
14+1	utumbo na mgosi wa -gwa	The intestines and the man fell	Class 2
14+3	utumbo na mtedha i -gwa homti	The intestines and the peanut fell from the tree	Class 4
14+5	utumbo na vuha i -gwa homti	The intestines and the bone fell from the tree	Class 4
14+7	utumbo na chibonkho vi -gwa	The intestines and the hippo fell	Class 8
14+9	utumbo na ng'ombe zi -gwa	The intestines and the cow fell	Class 10

Combinations involving Gender A always result in a Class 2, agreement morpheme /wa-/, and this occurs 5 of 5 times, constituting it as the unrivaled highest ranked gender. Of the five possible class combinations involving Class 7, one ought to note that 4 of these 5 resolve to Class 8, which must mean that Gender D is rank 2, i.e. only when Gender D is combined with Gender A, will Gender not win out. Gender E occupies rank 3. Gender B, can be identified in that it, occurs 2 out of five times, thusly rank 4. And lastly, the lowest in rank, rank 5 is Gender C, which in no instances of conflicting agreement will resolve to Class 6. With more concrete qualifications for each Gender's rank assignment, it is necessary to revisit Figure 17. Figure 23, below provides a final and completely justified version of logical rank assignments. This figure will prove to be useful when developing an analysis in Section 5.

Figure 23: Final Justified Logical Ordering

<i>Rank</i>	<i>Gender</i>	<i>Comprising Classes</i>	<i>Resolution</i>	<i>Specificity</i>
(1)	A, F	1, 2, 12	Class 2	Least Specified
(2)	D	7, 8	Class 8	Less Specified
(3)	E	9, 10, 14pl	Class 10	Less Specified
(4)	B, G	3, 4, 14, 14pl	Class 4	More Specified
(5)	C	5, 6	Class 6	Most Specified

4.9 Ambiguous Resolutions

As mentioned in Section 4.6, some genders are ambiguous in rank. This is due to the fact that these specific genders show no contrast in their own preferred CP, with the CP of its fellow conjunct sister. Take for example the case, that Gender B is coordinated with Class 14, in which both sisters specify a Class 4 AGR-value. In such instances it is impossible to discern which of the conjunct sisters wins out, as both resolve to Class 4. Looking now to coordinated structures involving both Genders A and F, a similar situation occurs as both Genders specify a Class 2 resolution. The following figure demonstrates how this ambiguity arises by providing two examples of the classes in question.

Hijacked vs Ambiguous Resolution

<i>Conjunct-Daughter 1</i>	<i>Conjunct-Daughter 2</i>	<i>Resolution</i>	<i>Highest Rank</i>	<i>Resolution Prefix</i>
wa ₂ -vere /wa-/ -----	ka ₁₂ -buga /wa-/ -----	Class 2	?	wa-
m ₃ -tedha /mi-/ -----	u ₁₄ -limi /mi-/ -----	Class 4	3	mi-

Although it may be impossible to identify which of these classes is highest in rank, this task is simplified when one considers the prefixes involved. In situations involving Genders A & F, rather than focusing on the class resolution, it better serves the purposes of this research to only consider the prefix, that is /wa-/. That is, rather than referring to the unknown winner of conflicted structures of gender A & F, why not simply refer to them as those classes which route to /wa-/. Similarly, in the example involving Class 14 and Gender B, simply state that these are the types of conjunct daughter which resolve to Class 4. Under this new labeling convention the ambiguous classes and genders are married under one label, a prefix. While gender has served a purpose in making differing singular-plural patterns of agreement distinct, resolved prefixes will help in marrying these ambiguous terms. The following figure, presents a simple 'key' of sorts,

which routes from Gender to coordination-specific prefixes of agreement.

Figure 25

Class Resolution Assignment Key

<i>Rank of Prefix</i>	<i>Gender/Class</i>		<i>Prefix</i>
(1)	Gender A, F	→	{wa}
(2)	Gender E	→	{vi}
(3)	Gender C, Class 14pl	→	{zi}
(4)	Gender B, G	→	{i}
(5)	Gender D	→	{ya}

5 Gender Conflict Resolution

In adopting the categorical conventions introduced in Figure 24, one can reduce the number of terms required to accurately capture this system. It is moreover advantageous to do so, as this system also accounts for the ambiguities discussed in Section 4.8. Recall that it was these indeterminable ambiguities between conflicted sisters, which disqualified gender as a good metric for classification within the realm of coordination. By identifying classes and genders by the prefixes which provide resolution to conflicted structures, one must keep track of only 5 prefixes, which can be traced backward to the level of gender specification and further yet to class.

With the rank of each prefix, one now has access a concise summary of each prefixes dominance over other prefixes. Yet without mention of the inherent asymmetrical distributions that exist between classes, precedence affords little theoretical importance. To account for this, Figure 26 below, summarizes both the and hierarchical nature inherent to the class structure and the occurrence of prefixes.

Summary of Distribution

<i>Class Combinations</i>		<i>Distribution</i>		<i>Result</i>
/wa-/	+	Anything	→	/wa-/
/vi-/	+	Anything (exc: /wa-/)	→	/vi-/
/zi-/	+	Anything (exc: /wa-/ , /vi-/)	→	/zi-/
/i-/	+	Anything (exc: /wa-/ , /vi-/ , /zi-/)	→	/i-/
/ya-/	+	Anything (exc: /wa-/ , /vi-/ , /zi-/ , /i-/)	→	/ya-/

5.1 Totally Ordered Set

Given this inherent ordering, parallels to the mathematical concept of an ordered set allow for surprising computations of the data. A *totally ordered set* is a collection of elements, which differs from a normal set, in that inequalities are used to describe an inherent ordering within the set with regards to some metric. Such sets are more frequently called chains, in that many elements within the set can adopt a multitude of relations to other elements within a set. Luckily, for the purposes of this research, the elements within the set are confined to linear inequality, which disallows interactions between lower and higher points in the chain. As can be intuitively inferred, the metric for ordering, which best applies to this data set, is that of logical precedence. By ordering the data as a set with inequalities which reflect concerns of ranking, one has constructed a totally ordered set, which adequately captures the hierarchical structure of the classes. This set, as seen

below in Figure 27, comprises all five CP-prefixes, which through the use of Figure 25 can be traced back to gender and class.

Figure 27: Totally Ordered Set of Prefixes

$$\{ \text{wa-} > \text{vi-} > \text{zi-} > \text{i-} > \text{ya-} \}$$

It is not only the convenient formal notation which justifies the selection of an ordered set for this analysis, but also the higher order operation which can be preformed on such sets. As it were, the parallels between the system of gender conflict resolution and the operations permissible to such sets are more than parallel, they are identical. Here, a bit of definitional information is necessary to progress. The mathematical *join* of a set is defined as the necessarily unique *supremum* (least upper bound) with respect to a partial/total order on the set, provided a supremum exists. Ultimately this operation selects the least upper bound of a set. The formal definition of join can be found below in Figure 28.

Formal Definition of Join in an Ordered Set

$$\forall a, b. (a, b) \in A \rightarrow a \vee b = b: a < b$$

For all a's and b's, such that a and b are elements of the set A, then the join of a and b is equal to b, when a is less than (lower than) b.

From the above definition and the ordered set of prefixes, one is now in a place to compute the mathematical join of the set of the prefixes. Not surprisingly, the output of this computation is none other than the preferred CP prefix of that given class conflict combination. To demonstrate this Figure 28, below, offers examples taken from Figure 22 represented as prefix set join operations rather than by class or gender. It can be verified by the reader that all possible join computations result in the correct selection of verbal CP.

Join Computation		Gloss	Resolution
Combination	Example		
wa-∨i- wa-∨ya- wa-∨vi- wa-∨zi-	mgosi na mtedha wa -gwa homti mgosi na vuha wa -gwa homti mgosi na chibonkho wa -galuka mgosi na ng'ombe wa -gwa homti	The man and the peanut fell from the tree The man and the bone fell from the tree The man and the hippo fell over The man and the cow fell from the tree	wa-∨i= wa- wa-∨ya= wa- wa-∨vi= wa- wa-∨zi= wa-
i-∨wa- i-∨ya- i-∨vi- i-∨zi-	mtedha na mgosi wa -gwa homti mtedha na vuha i -gwa mtedha na chibonkho vi -gwa mtedha na ng'ombe zi -gwa	The peanut and the man fell from the tree The peanut and the bone fell The peanut and the hippo fell The peanut and the cow fell	i-∨wa= wa- i-∨ya= i- i-∨vi= vi- i-∨zi= zi-
ya-∨wa- ya-∨i- ya-∨vi- ya-∨zi-	vuha na mgosi wa -gwa homti vuha na mtedha i -gwa homti vuha na chirole vi -gwa homti vuha na ng'ombe zi -gwa homti	The bone and the man fell from the tree The bone and the peanut fell from the tree The bone and the mirror fell from the tree The bone and the cow fell from the tree	ya-∨wa= wa- ya-∨i= i- ya-∨vi= vi- ya-∨zi= zi-
vi-∨wa- vi-∨i- vi-∨ya- vi-∨zi-	chirole na mgosi wa -gwa homti chirole na mtedha vi -gwa homti chirole na vuha vi -gwa homti chirole na ng'ombe vi -gwa	The mirror and the man fell from the tree The mirror and the peanut fell from the tree The mirror and the bone fell from the tree The mirror and the cow fell	vi-∨wa= wa- vi-∨i= vi- vi-∨ya= vi- vi-∨zi= vi-
zi-∨wa- zi-∨i- zi-∨ya- zi-∨vi-	ng'ombe na mgosi wa -gwa homti ng'ombe na mtedha zi -gwa homti ng'ombe na bavu zi -gwa homti ng'ombe na chibonkho vi -gwa homti	The cow and the man fell from the tree The cow and the man fell from the tree The cow and the maribou stork fell from the tree The cow and the hippo fell from the tree	zi-∨wa= wa- zi-∨i= zi- zi-∨ya= zi- zi-∨vi= vi-

Three characteristics provide closure to this set, and reflect quite perfectly the ontology of gender conflict resolution. These qualities are provided below in Figure 29, which formally defines each of them, and provides an example of their effects in the language, thus necessitating their existence.

Figure 29

<i>Name</i>	<i>Formal Definition</i>	<i>Examples of Linguistic Consequence</i>
Associativity	$a \vee (b \vee c) = (a \vee b) \vee c$	$m_{wa-}\text{-gosi} \vee (\text{chi}_{vi}\text{-bonkho} \vee m_i\text{-tedha}) =$ $(m_{wa-}\text{-gosi} \vee \text{chi}_{vi}\text{-bonkho}) \vee m_i\text{-tedha}$ $= \text{wa-}$
Commutativity	$a \vee b = b \vee a$	$m_{wa-}\text{-gosi} \vee \text{chi}_{vi}\text{-bonkho} = \text{chi}_{vi}\text{-bonkho} \vee m_{wa-}\text{-gosi} = \text{wa-}$
Idempotency	$a \vee b = b, \neg(a \wedge b)$	$m_{wa-}\text{-gosi} \vee \text{chi}_{vi}\text{-bonkho} = \text{wa-}, \neg \text{vi-}$

Associativity provides a glimpse into potential future topics of research, as it inherently requires a ternary relation. Conjunctions involving more than 3 conjunct daughters are predicted to behave exactly as dual conjunct daughters do. Data indicate that this is correct assuming the bound of conjunction daughters is less than 4. It appears the system of agreement can be overridden when more than 3 short NP conjunct daughters are involved in the coordinate structure. While not exhaustive, probing of the subject has revealed that indeed associativity does hold, as long as the memory constraints of the speaker are not overridden by taxing and large structures.

Through commutativity, one accounts for the initial concerns of order of conjunct daughters. As was concluded previously order has no bearing on the outcome of resolution, which independently inspires the use and incorporation of commutativity. Idempotency is perhaps the most important quality on the set, as it guarantees the existence of one unique solution to each join. All previous data indicate that idempotency must too govern this system, as only one unique prefix is permitted on the verbal head, else instances of sentences such as the following would have occurred: /mgosi na mtedha **wa-i**-gwa/ 'the man(wa) and the peanut(i) (wa)-(i)-fell'. To avoid the badness of such sentences idempotency must be incorporated.

5.2 Conclusion

As Gender appeared as a gold standard for dealing with the grouping of somewhat unpredictable class pairings, so to does the concept of a set with respect to logical precedence satisfy the needs of coordination in this language. In appealing to set theoretic concepts, which perfectly mirror the hierarchical ordering of agreement in this language, one captures the system in a mathematically elegant way. Without such appeals, a list would have to be constructed which accounts for some 78 different combinations of noun classes, whereas with such appeals, this system is reduced to 5 simple outcomes.

In recapitulation, it was the existence of both NP-internal and NP-external requirements which necessitated handling classes as genders with rules of AGR-value inheritance. Yet these rules remained silent in the realm of coordination and are blocked from participating given dually specified AGR-values. The usage of gender was further discouraged, provided genders which exhibited hijacked agreement. CP-Prefixes became the next most useful system of categorization, as that they greatly reduce the taxonomic requirements in predicting the preferred prefix of the conflicted structure. But it was by marrying the concept of precedence and an ordered set that produced a mechanism and means for predicting this resolution.

Some interesting question and charges for future research are born out of the conclusions of this research. For instance, while externally agreement specifies inherent plurality, how can one account for sentences such as 'That(sg) man and woman are(pl) shopping together.' in which singularity is specified internally and plurality externally. Similarly, does the adoption of logical precedence and a totally ordered set account for data in other languages which utilize gender. These are important question as they provide insight into the ontology of the theory of grammatical agreement, and explains how such a vast and complicated-seeming system of agreement can be represented and computed quite simply.

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